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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

**PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE**

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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Federal Center Building
Hyattsville, Maryland 20781

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS:

ALFALFA WEEVIL situation continues serious in nearly all States reporting. Many additional counties reported infested. (pp. 499, 500). Chemical controls necessary for PEA APHID where natural controls not effective; continues serious in New Mexico; winged forms appearing in Wisconsin and population could increase rapidly. (pp. 500, 501). THREE-CORNERED ALFALFA HOPPER increasing rapidly in several ARIZONA counties. (p. 502, 510). CORN EARWORM larvae appearing in damaging numbers in Oklahoma and Georgia. (p. 503). Various cutworms, both adults and larvae, appearing in light traps and in fields. (pp. 502, 503). EUROPEAN CORN BORER pupation nearly complete in southern areas of Illinois and Missouri and starting in northern Illinois (p. 503); egg masses noted in North Carolina (p. 510). Moderate outbreak of ARMYWORM in northeast Arkansas reported; severe leaf feeding noted in southwest Missouri also. (p. 504).

ORCHARD MITES, including EUROPEAN RED MITE, buildup indicated in orchards of Connecticut to South Carolina and Ohio. (p. 507). Many LEPIDOPTERA associated with fruit trees appearing in larval and adult forms; CODLING MOTH mainly in pupal stage. (pp. 507, 508).

BOLL WEEVIL adults out of hibernation in Alabama; heavy on cotton in field in Lowndes County. WESTERN FLOWER THRIPS infestations threatening in central Arizona. (p. 512). Live PINK BOLLWORM larvae found in Graham County, Arizona; adult emergence continues in Texas cages. (p. 513). Adult MOSQUITO activity increasing in Northern States. BLACKFLIES attacking livestock in Vermont and humans in Rhode Island and Maryland. HORN FLY continues heavy in Oklahoma; building up in Alabama. (p. 517). TICKS, including AMERICAN DOG TICK, heavy in several States; LONE STAR TICK heavy on cattle in Oklahoma. (p. 518).

CORRECTIONS and ADDITIONAL NOTES

See page 520 and 522.

DETECTION

New State records reported include: two HISTERID BEETLES (Hister nomas Erickson, and Pachylister caffer Erickson) in Hawaii (p. 524). New county records reported include: ALFALFA WEEVIL (Hypera postica) in Baxter, Sharp and Marion Counties, Arkansas, and Bartholomew, Johnson, Jennings, Ripley and Dearborn Counties, Indiana. (p. 499); A WEEVIL (Cosmobaris americana) in Orange County, California, (p. 506); and SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) in Colusa County, California, (p. 515).

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 521).

Cattle Lice Survey in North Carolina - 1965. (p. 523).

Hawaiian Insect Notes. (pp. 524, 525).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Lettuce and Cabbage in Colorado and Sugar beets in Nebraska in 1964. (pp. 526, 527).

Reports in this issue are for the week ending May 14, unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-MAY TO MID-JUNE 1965

The Weather Bureau's 30-day outlook for mid-May to mid-June calls for temperatures to average above seasonal normals from the Ohio Valley northward to the upper Great Lakes and eastward to the Atlantic Coast. Below normal averages are anticipated from the Great Plains Region westward to the Pacific Coast except for near normal in California. In unspecified areas near normal temperatures are anticipated. Rainfall is expected to exceed normal from the west Gulf States northward to the Great Lakes and also over the northern Plains. Subnormal amounts are called for over middle and north Atlantic Coastal areas as well as over the Southern Plateau, the Great Basin, and California. Elsewhere near normal amounts are anticipated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

WEATHER OF THE WEEK ENDING MAY 17

HIGHLIGHTS: (1) Substantial rains in many dry portions of Great Plains. (2) Excessive rains, flash flooding, central Texas, also Black Hills area. (3) Still dry, some Gulf and Atlantic coastal areas. (4) Cool Southwest, warm Great Lakes, otherwise near normal.

TEMPERATURE: Nevada, Idaho, and nearby areas averaged 10° to 14° warmer than the previous week and a few degrees warmer than normal. It was cooler from the Rio Grande to the Great Lakes this week but averages were still above normal. Temperatures in the 80's were common over the Dakotas on Thursday, reached the southern portion of the Lake region on Saturday, and were recorded in western New England by Sunday. The Northeast and the Southeast were cool at midweek with warmer periods earlier and later as weekly averages were mostly near normal. The Western States had a gradually rising temperature trend during the week.

PRECIPITATION: The very dry area extending from western Texas to southeastern Wyoming and western Nebraska had general rains of 1 to 2 inches with only a few areas missed. Numerous heavy thundershowers soaked much of Texas and caused local flooding as some central portions received from 5 to 8 inches. Friday's rains over eastern Colorado were the heaviest in several months. Wyoming received beneficial snow early in the week and some good showers Thursday and Friday. Weekend rains of 2.5 to 6 inches fell in the Black Hills area of South Dakota. Beneficial rains fell over much of Nebraska and northeastward to Upper Michigan. Rainfall in the East ranged from none over southern Alabama to an inch or more in the upper Ohio Valley. Several areas along the Gulf coast and in Florida have been persistently dry. Many areas in the West and Southwest had little or no rain last week. Severe thunderstorms including some tornadoes occurred over portions of 11 States from Texas to Michigan and Ohio. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

ALFALFA WEEVIL (Hypera postica) - MARYLAND - Larval damage severe in unsprayed alfalfa in central sections; larvae averaged 80 per sweep in field in Carroll County. Pupation continuing in most areas. (U. Md., Ent. Dept.). DELAWARE - Many untreated fields throughout State show very heavy feeding injury; larvae average over 100 per sweep. (Burbutis). NEW JERSEY - Adults ranged 0-140 (averaged 75) and larvae ranged 244-1,860 (averaged 820) per 100 sweeps on alfalfa in 6 fields in Burlington-Warren County area. Adults ranged 0-65 (averaged 28) and larvae ranged 650-7,000 (averaged 2,670) in areas of Gloucester, Salem and Cumberland Counties. (Ins.-Dis. Newsltr.). NEW YORK - Adults averaged 1 per sweep in Owego, Tioga County, much heavier than in 1964. No larvae found in Tioga or Tompkins Counties. Feeding in Ulster County. (N.Y. Wkly. Rpt., May 10). CONNECTICUT - Adults averaged 39 per 25 sweeps in south-central section; mating noted. (Savos, May 12). MASSACHUSETTS - Newly deposited eggs noted in western section. Larvae ranged 2-3 and adults 2-13 per 100 sweeps. (Shaw, May 7). VERMONT - No adult or larval activity observed. (Nielsen, May 6).

OHIO - Continued reports substantiate seriousness of problem in southeastern region of State. All alfalfa heavily infested in Washington County. New adults and pupae in Highland County. Fields sprayed early in Gallia County again developing high populations; up to 6-8 larvae per stem with some fields 90 percent or more infested. Larger larvae found in previously sprayed fields indicate that some larvae evidently survived spray treatment. Adults found in all fields checked in Tuscarawas County; 65-70 percent terminal growth damage in southern section of county. Double handful of larvae collected in 25 sweeps in Columbia County; ranged 50-100 percent infested in southern and eastern parts of county; northern parts somewhat less advanced. Generally spread over Adams County; damage heavy; cutting done early there. Progressively lighter plant damage noted in westerly direction from Fayette County through northern Brown County and into Butler County. A 20 percent plant infestation recorded in fields in Fayette County; 10 percent noted in northern Brown County. One larva per 10 sweeps in field in Butler County. Other counties reporting H. postica: Guernsey, Athens and Fairfield Counties. (Rose et al.). INDIANA - Reported in Bartholomew, Johnson, Jennings, Ripley and Dearborn Counties for the first time. (Matthew, Huber). Pupating in southernmost counties of State (Matthew, Lehker). Larvae range 15-1,300 per 100 sweeps in Harrison and surrounding counties. Light in Johnson and Bartholomew Counties; average 2 adults and 3 larvae per 200 sweeps. Larvae range 10-20 per 100 sweeps in areas of Jennings, Ripley and Dearborn Counties. (Matthew, Huber, Lehker, May 7). ILLINOIS - None found in southern Champaign or Vermilion Counties. (Lusk). MISSOURI - Pupation nearly complete in southeast district; larvae range 10-20 per 10 sweeps with adults common. New growth alfalfa damaged 20-25 percent. (Wkly. Ins. Rpt., May 8). ARKANSAS - Reported in Sharp, Baxter and Marion Counties for the first time; this brings to 14 the number of counties known to be infested in State. Species has moved halfway across northern part of State. Ranged 15-25 per 100 sweeps in Craighead County; about 80 percent adults. (Ark. Ins. Sur.). NEW MEXICO - Of 4 fields checked near Corrales, Sandoval County, counts per 25 sweeps as follows: One adult in first, 40 larvae in second, 75 larvae and 1 adult in third and 305 larvae and 3 adults in fourth field. Heavy damage in third and fourth fields; ranged 5-8 larvae in field near Penablanca, Sandoval County; light feeding damage noted. (Heninger). COLORADO - Adults ranged 100-400 per 100 sweeps on alfalfa in Weld County; mating and egg laying underway; no larvae taken to date. (Simpson). Adults ranged 100-200 on same crop in Larimer County. (Simpson). Larvae increasing in most alfalfa fields in Mesa County; ranged 20-100 per 100 sweeps. Parasitism ranges 20-50 percent in fields with low to moderate H. postica larval counts. (Bulla). WYOMING - Adults averaged 6 per 100 sweeps in alfalfa in Washakie County. (Marks). UTAH - Larval numbers well above normal in Washington County but only occasionally causing conspicuous damage. (Thornley, Knowlton, May 10). Injuring older alfalfa fields in Green River, Emery County; adults 1-7 and larvae 22-125 per 10 sweeps; to third instars. Ranged 2-3 per 10 sweeps in Miller Creek area, Emery County. Damage becoming obvious in alfalfa fields in Moab, Grand County, and Green River, Emery County. (Knowlton). NEVADA -

Larvae variable in Pahrnagat Valley-Hiko areas, Lincoln County. Highest counts 20 per sweep in some fields in Hiko area where damage evident. Larvae in various stages; adults present. Larvae and adults light and spotted in Panaca, Lincoln County. (Bechtel, Zoller).

CLOVER LEAF WEEVIL (Hypera punctata) - MASSACHUSETTS - Larvae range 2-5 per 100 sweeps in western area. (Shaw, May 7). MARYLAND - Larvae caused noticeable injury to red clover on farm in Carroll County. (U. Md., Ent. Dept.). OHIO - Two adults collected in alfalfa in Darke County in 50 sweeps. (Rose). INDIANA - This and H. nigrirostris (lesser clover leaf weevil) averaged 2 per 100 sweeps in alfalfa-clover mixtures in southeast. (Huber, May 8). ILLINOIS - Larvae vary 0-13 (average 3.5) per square foot in clover and alfalfa fields in northern area. (Ill. Ins. Rpt.). MISSOURI - Absent in alfalfa in southwest and south central districts. (Wkly. Ins. Rpt., May 8). IOWA - Larvae second to third instars in central area; average 1 per plant in red clover and alfalfa; not threatening. (Iowa Ins. Inf., May 11).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - NEBRASKA - Adults ranged 0-1 per 10 sweeps in Gage County. (Rhine). MARYLAND - Adults and larvae light on red clover on farm in Carroll County. (U. Md., Ent. Dept.).

CLOVER ROOT CURCULIO (Sitona hispidula) - IDAHO - Adults collected in sweepings in Bonners Ferry on white clover seed fields. (Ingle, Portman).

A WEEVIL (Sitona scissifrons) - NEBRASKA - Ranged 0-10 per 10 sweeps in alfalfa in Jefferson, Franklin and Gosper Counties. (Rhine).

PEA APHID (Acyrtosiphon pisum) - IDAHO - Controls used on severe infestation of 280 acres at Granview. (Mink). NEVADA - Light, up to 4 per sweep, in all alfalfa fields checked in Pahrnagat Valley, Hiko and Panaca, Lincoln County. (Bechtel, Zoller). UTAH - General but no high populations observed in alfalfa in Green River area, Emery County. Scarce to light in Utah, Salt Lake, Carbon and Emery Counties; some lady beetle adults, damsel bugs (Nabis spp.) and big-eyed bugs (Georcoris spp.) present in infested fields. (Knowlton). WYOMING - Averaged 52 per 100 sweeps in alfalfa in Washakie County. (Marks). COLORADO - Ranged 300-400 per 100 sweeps in alfalfa northeast of Greeley, Weld County. (Simpson). Averaged 10 per 100 sweeps northwest of Longmont. (Urano). NEW MEXICO - Light to very heavy in alfalfa near Belen and Jarales, Valencia County. Heaviest infestations reducing stands; in some cases killing whole fields where controls not used. (Heninger). Mostly light in alfalfa checked in Artesia, Carlsbad and Loving, Eddy County. (Kloepfer). OKLAHOMA - Heavy rains and early cuttings greatly reduced numbers in many areas; heavy in some fields with new growth attacked. (Okla. Coop. Sur.). KANSAS - Light in Marion, Chase and Greenwood Counties; light to moderate in Riley County. (Gates, Brooks, May 7).

NEBRASKA - Ranged 100-500 (averaged 200) per 10 sweeps in alfalfa in Gage, Jefferson, Thayer, Nuckolls, Webster, Franklin and Harlan Counties; no controls needed. Ranged 5-50 (averaged 30) per 10 sweeps in alfalfa in Furnas, Gosper, Phelps and Kearney Counties; large number of predators present. (Rhine). MISSOURI - Ranged 100-500 per 10 sweeps in south-central district and 100 to several thousand per 10 sweeps in Lawrence and Greene Counties. (Wkly. Ins. Rpt., May 8). Counts in alfalfa remain high in central and east central districts; 1,000 to several thousand per 10 sweeps; harvest beginning; predator and parasite counts high. (Houser, Thomas, Peters). IOWA - Average 20 per 10 sweeps in alfalfa; winged and wingless adults present with 50 percent nymphs. (Iowa Ins. Inf., May 11). MINNESOTA - Ranged 20-2,200 (averaged 400) per 100 sweeps on alfalfa. (Minn. Ins. Rpt.). WISCONSIN - Hatched in Brodhead and Mazomanie areas April 13; 4 days later than in 1964. Considerable number of parasites, primarily Praon pequodorum (a braconid) appearing about one week later. Predators nearly absent. Later, high degree of parasitism evident. A. pisum 0 in fields near Janesville to 1,500 per sweep in parts of Trempealeau County. Winged forms appearing; counts presently very low but could increase rapidly. (Wis. Ins. Sur.). ILLINOIS - Low (0-890), average 234 per 100 sweeps in clover and alfalfa fields in northern

area; parasites abundant. Vary 500-1,200 (average 860) per 100 sweeps in central area. (Ill. Ins. Rpt.). INDIANA - Ranged 5-10 per sweep in east central section; 20-40 per sweep in southeast section and 21 per 100 sweeps in Porter County. (Huber, Matthew, May 8). MICHIGAN - Light in 6 of 7 alfalfa fields in Monroe and Livingston Counties May 11. Averaged less than 3 per sweep. Heavy in Monroe County field seeded in 1964; over 10 per sweep. Braconids ranged moderate to high in most alfalfa; credited with keeping populations reduced. (Newman). OHIO - Averaged 34 per sweep in alfalfa in Fayette County; 24 per sweep in field in Brown County. About 50-70 percent of alfalfa plants with parasitized aphids, up to 6 parasitized forms per plant. Emergence holes visible on some aphids. A. pisum infestations ranged 10-12 per alfalfa plant and more per clover plant in Lorain County; numerous in Pickaway County; parasitized specimens noted in Sandusky County. (Rose et al.).

MASSACHUSETTS - Relatively few in western area; ranged 5-15 per 100 sweeps. (Shaw, May 7). NEW JERSEY - Ranged 28-148 (averaged 75) per 20 sweeps on alfalfa in 6 fields in Burlington-Warren County area. Ranged 0-200 (averaged 126) in areas of Gloucester, Salem and Cumberland Counties. (Ins.-Dis. Newsltr.). MARYLAND - Relatively light on alfalfa in central sections. (U. Md., Ent. Dept.). FLORIDA - Several thousand adults and nymphs per 100 sweeps on alfalfa at Gainesville, Alachua County; increasing. Heaviest populations this spring. Very light on yellow lupine at Gainesville. (Mead, May 10).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Hatched in Brodhead area April 22; 6 days later than in 1964. Ranged 1-4 per sweep in several alfalfa fields found infested for first time last fall in other southern locations. Winged forms appearing; noted May 7 in 1964. (Wis. Ins. Sur.). NEBRASKA - Ranged 10-30 (averaged about 20) per 10 sweeps in alfalfa in Gage, Jefferson, Thayer, Nuckolls, Webster, Franklin and Harlan Counties. Averaged 75 per 10 sweeps in alfalfa in Furnas and Kearney Counties. (Rhine). COLORADO - None taken in Prospect Valley area, Weld County. (Boyes). ARIZONA - Decreasing slowly in old and new alfalfa fields in Graham County; most older fields cut. (Ariz. Coop. Sur.). NEW MEXICO - Light to moderate on alfalfa in Valencia and Bernalillo Counties. (Heninger). Very light, spotted infestations in alfalfa in southern Eddy County. (Kloepfer). INDIANA - Ranged to 30 per 100 sweeps in Bartholomew and Harrison Counties; alates in Harrison County. (Matthew, Lehker, May 8). FLORIDA - Several thousand adults and nymphs per 100 sweeps of alfalfa at Gainesville, Alachua County; heaviest population this spring. (Mead, May 10).

MEADOW SPITTLEBUG (Philaenus spumarius) - MARYLAND - Light to moderate on red clover in Carroll and Talbot Counties. (U. Md., Ent. Dept.). OHIO - Nymphs rather common in alfalfa and clover fields in southern area. Approximately 40 percent of plants infested; many plants with 2-3 nymphs. Similar field in Brown County about 30 percent infested; Butler County field yielded 12 nymphs per 10 sweeps; about 40 percent of plants infested. Nymphs one-eight to three-sixteenth inch long. Common in Fairfield County. (Taylor, Rose). MICHIGAN - First instars appearing on legumes in Monroe and Livingston Counties May 11. (Newman). INDIANA - Nymphs ranged 10-60 per 100 stems in southeast section. (Huber, May 8). WISCONSIN - Hatched; degree of infestation similar to 1964 season. Spittle masses on terminal leaves of alfalfa. (Wis. Ins. Sur.). ILLINOIS - Nymphs, mostly first and second instars, vary 0-2.1 (average 0.4) per stem in clover and alfalfa in northern area. (Ill. Ins. Rpt.).

SPITTLEBUGS - NEW YORK - Nymphs on curly dock in Tompkins County; evident on alfalfa in Ulster County; forming spittle masses in Livingston County. (N.Y. Wkly. Rpt., May 10). GEORGIA - Prosapia bicincta first adult taken in light trap in Coastal Bermuda grass in Tift County. (Leuck).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Averaged 2 per 10 sweeps in alfalfa in Kiowa County. (Okla. Coop. Sur.). NEBRASKA - Ranged 10-20 per 10 sweeps in south central area. (Rhine). MISSOURI - Adults and nymphs of this and Adelphocoris rapidus (rapid plant bug) ranged 2-7 per 10 sweeps on alfalfa in south central and southwest districts. (Wkly. Ins. Rpt., May 8). IOWA - Averaged

7 per 10 sweeps in alfalfa and red clover in central area. (Iowa Ins. Inf., May 7). ILLINOIS - Adults vary 0-50 (average 14) per 100 sweeps in clover and alfalfa in northern area. (Ill. Ins. Rpt.). INDIANA - Adults active in east-central and southern section; ranged 2-12 per 10 sweeps. (Huber, May 8). MICHIGAN - Ranged zero to heavy (average 1.5 or more) per sweep in southeastern alfalfa; common on host plants in southwest. (Newman, Ruppel). RHODE ISLAND - Easily found in Kingston area, Washington County. (Mathewson). MASSACHUSETTS - Ranged 2-12 per 100 sweeps in western area. (Shaw, May 7). NEW YORK - Evident on alfalfa in Ulster County. (N.Y. Wkly. Rpt., May 10). FLORIDA - Ranged very light to light on alfalfa, oats, yellow lupine, white sweetclover and rye at Gainesville, Alachua County. (Mead, May 10).

RAPID PLANT BUG (*Adelphocoris rapidus*) - WISCONSIN - Nymphs averaged 2 per sweep in many southern county alfalfa fields. (Wis. Ins. Sur.).

A PLANT BUG (*Taylorilygus pallidulus*) - FLORIDA - Low numbers continue on alfalfa at Gainesville, Alachua County. (Mead, May 10).

CLOVER LEAFHOPPER (*Aceratagallia sanguinolenta*) - MASSACHUSETTS - Ranged 2-5 per 100 sweeps in western area. (Shaw, May 7). FLORIDA - Common on alfalfa and light on yellow lupine at Gainesville, Alachua County. (Mead, May 10). UTAH - Common in alfalfa fields at Miller Creek, Emery County. (Knowlton).

POTATO LEAFHOPPER (*Empoasca fabae*) - MISSOURI - First adults of season ranged 0-2 per 10 sweeps on alfalfa in south central and southwest districts. (Wkly. Ins. Rpt.). ILLINOIS - Adults vary 0-10 (average 3) per 100 sweeps in clover and alfalfa in northern area. (Ill. Ins. Rpt.). WISCONSIN - Few adults appearing in southern alfalfa fields; scarce. (Wis. Ins. Sur.).

COTTON FLEAHOPPER (*Psallus seriatus*) - ARIZONA - Medium on many alfalfa fields in Maricopa and Graham Counties. (Ariz. Coop. Sur.).

LYGUS BUGS (*Lygus* spp.) - WYOMING - Adults averaged 34 per 100 sweeps in alfalfa in Washakie County. (Marks). NEVADA - Averaged 4 nymphs and adults per sweep in most fields checked in Pahrnagat Valley, Hiko and Panaca, Lincoln County. Counts higher in weedy fields with mustards. (Bechtel, Zoller). UTAH - *Lygus* spp., 90 percent *L. elisus*, and nymphs to 50 percent grown, common in alfalfa; 1-2 adults and 2-8 nymphs per 10 sweeps on tansymustard. Few *Lygus* spp. nymphs found in alfalfa in Carbon, north Emery County, fields. Adults, largely *L. elisus*, light to moderately numerous in alfalfa, more numerous on wild mustards. (Knowlton). NEW MEXICO - Averaged 1-2 adults per 25 sweeps in alfalfa checked in southern Eddy County. (Kloepfer). Adults and nymphs averaged 2-5 per 25 sweeps in alfalfa near Penablanca, Sandoval County. (Heninger). TEXAS - Locally light on alfalfa in Hockley County. (Texas Coop. Rpt., Hanson).

THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) - ARIZONA - Increasing rapidly in alfalfa in Yuma, Maricopa and Pinal Counties; averaged 65 per 100 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Occasional specimen collected in sweeping alfalfa in Bernalillo, Sandoval and Valencia Counties. (Heninger). FLORIDA - Adults and nymphs averaged approximately 1 each per 4 sweeps on alfalfa and yellow lupine at Gainesville, Alachua County. (Mead, May 10).

ALFALFA CATERPILLAR (*Colias eurytheme*) - OKLAHOMA - Averaged 2 per 10 sweeps in alfalfa in Kiowa County. (Okla. Coop. Sur.).

GREEN CLOVERWORM (*Plathypena scabra*) - DELAWARE - First adult of season collected in blacklight trap in Sussex County May 5. (Burbutis).

CLOVER LOOPER (*Caenurgina crassiuscula*) - MICHIGAN - Numerous adults taken in blacklight trap in Livingston County. (Snow, Newman).

ARMY CUTWORM (*Chorizagrotis auxiliaris*) - MONTANA - Becoming active; reported in Gallatin, Yellowstone, Dawson and Hill Counties. (Pratt). COLORADO - Ranged

4-6 per square foot in Pierce area, Weld County, on alfalfa; controls recommended. (Boyes). Averaged 3 per square foot in Berthoud area. (Cronkhite). UTAH - Light in alfalfa in Mapleton area, Utah County, and Miller Creek area, Emery County. (Knowlton).

VARIEGATED CUTWORM (Peridroma saucia) - MISSOURI - Very low numbers noted. (Wkly. Ins. Rpt., May 8). Low numbers present in central, east-central and southeast districts. (Houser, Thomas, Peters).

SPOTTED CUTWORM (Amathes c-nigrum) - OHIO - First adult trapped at Wooster, Wayne County, May 10; eggs deposited May 13. (Rings).

CUTWORMS - VERMONT - Exceptionally heavy on alfalfa and other legumes in areas of Windham County. (Nielsen, May 10). IDAHO - Serious in small, isolated spots in some alfalfa fields near Oregon-Idaho State line; treatments required. (Waters, May 7). MARYLAND - Heavily injured field corn after sod at localities in Carroll and Kent Counties. (U. Md., Ent. Dept.).

ALFALFA WEBWORM (Loxostege commixtalis) - OKLAHOMA - Larvae numerous and damaging alfalfa in Garvin County. (Okla. Coop. Sur.).

WEBWORMS (Loxostege spp.) - MISSOURI - Light in alfalfa in central district. (Houser, Thomas, Peters).

LEAF ROLLER MOTHS - ILLINOIS - Larvae of undetermined species vary 0-40 (average 5.4) per 100 sweeps in alfalfa in northern area; webbing of terminal leaves noticeable in few fields. (Ill. Ins. Rpt.).

CORN ROOTWORMS (Diabrotica spp.) - OHIO - D. undecimpunctata howardi (southern corn rootworm) adult collected by sweeping alfalfa in Preble County. (Rose). DELAWARE - First D. undecimpunctata howardi adults of season noted on alfalfa in Kent County, May 11. (Burbutis). NEW MEXICO - Counts of D. undecimpunctata tenella ranged 2-3 adults per 25 sweeps in alfalfa in Sandoval County; 0-5 adults per 25 sweeps in Valencia County. (Heninger).

THRIPS - GEORGIA - Light to moderate on peanuts in southern area. (French).

CORN EARWORM (Heliothis zea) - MISSOURI - First found in alfalfa in southeast district week ending May 1. (Wkly. Ins. Rpt.). First and second instars swept from alfalfa in central district. (Houser, Thomas, Peters). OKLAHOMA - Fourth instar noted on corn checked in Carter County. (Okla. Coop. Sur.). GEORGIA - Caused heavy damage to field of corn in Macon County; replanting necessary. (Brown, May 10). Infested 42 percent of plants in field of corn in Pulaski County. (Vanderford). Light to moderate in whorls of corn in southern area. (Burton, Young).

BLACK CUTWORM (Agrotis ipsilon) - IOWA - Adults abundant in tall grass in Ames area. (Iowa Ins. Inf., May 11). MISSOURI - Destroying young corn in 5-acre fields in Jasper County. (Wkly. Ins. Rpt., May 8). OHIO - Adults trapped at Reynoldsburg May 11 (Walker, Spilker); first adult at Wooster, Wayne County, trapped May 9. (Rings).

YELLOW-STRIPED CATERPILLAR (Prodenia ornithogalli) - OKLAHOMA - First larvae of season noted feeding on corn in Carter County; numbers light. (Okla. Coop. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Damaging field peas; adults appearing in light traps in Tift County. (Leuck). Caused heavy damage to field of silage corn in Chatham County. (Lee).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MISSOURI - Pupation 60 percent complete; some emergence noted in southeast district. Adult taken in light trap at Portageville, Pemiscot County. (Wkly. Ins. Rpt., May 8). ILLINOIS - Pupation nearly complete in southwest area. Beginning in northern area. (Ill. Ins. Rpt.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - OKLAHOMA - Adults averaged 3 per plant in corn 12-15 inches high in Garvin County; 1 per plant in Carter County and 0.1 per plant in Marshall County. None noted on corn 8-12 inches high in Jefferson County. (Okla. Coop. Sur.). MISSOURI - Few specimens on corn in Howard County. (Houser, Thomas, Peters). MARYLAND - Adults ranged light to heavy on field and sweet corn in Carroll and Wicomico Counties. (U. Md., Ent. Dept.).

FLEA BEETLES - OHIO - Infesting corn in Ross, Franklin and Coshocton Counties. (Muntzing, Miskell, Holdsworth). ARIZONA - Chaetocnema ectypa (desert corn flea beetle) heavy and damaging sweet corn in Glendale area, Maricopa County. (Ariz. Coop. Sur.).

MAIZE BILLBUG (Sphenophorus maidis) - ALABAMA - Heavy locally and causing severe damage to 2 acres of corn in Geneva County; adjoins area badly damaged in 1964. (Reynolds). GEORGIA - Sphenophorus sp. light to heavy on corn in southern area. (Morgan, French).

CORN LEAF APHID (Rhopalosiphum maidis) - MISSOURI - Few winged specimens on corn in Howard County. (Houser, Thomas, Peters). OKLAHOMA - Light on corn in Jefferson County. (Okla. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - ARKANSAS - Moderate outbreak in small grain, primarily wheat, in extreme northeast area. Ranged 1-15 per square foot; most second and third instars. Present in Mississippi, eastern Craighead and eastern Poinsett Counties. Quality of crop varies greatly; infestations vary in direct ratio to quality; heavier infestations on better wheat. (Ark. Ins. Sur.). OKLAHOMA - Light to moderate; damaging oats and barley in Jefferson County. Unspecified species present in light numbers in wheat in Tillman County. (Okla. Coop. Sur.). MISSOURI - First larvae found in wheat in southwest district week ending May 1. (Wkly. Ins. Rpt.). Larvae in small grain in southeast district range zero in open areas to 15 per square foot in dense areas; ranged 5-10, one-half to two-thirds grown larvae, per square foot; leaf feeding becoming severe. Larvae very early to half grown in Scott County; averaged up to 15 per square foot in dense growth and 25 per square foot in down areas. (Houser, Thomas, Peters). IOWA - Adults present at Hastings and Columbus Junction, May 2-4. (Iowa Ins. Inf.). ILLINOIS - Few small larvae noted in wheat in central district. (Ill. Ins. Rpt.). OHIO - Adult collected from light trap in Highland County; specimen collected from window in Wayne County. (Rose). MARYLAND - None seen nor reported to date in small grains and corn in State. (U. Md., Ent. Dept.). NORTH CAROLINA - Undetermined species infesting large number of acres of small grains in Currituck County. (Hardesty).

WHEAT-HEAD ARMYWORM (Faronta diffusa) - OKLAHOMA - Moderate and damaging oats and barley in Jefferson County; grain in "soft dough" stage. (Okla. Coop. Sur.). DELAWARE - Adults fairly common in blacklight trap in Sussex County. (Burbutis).

NOCTUID MOTHS - FLORIDA - Larvae of Mocis sp. averaged 2 and larvae of Leucania sp. averaged 16 per 100 sweeps on oats at Gainesville, Alachua County. (Mead, May 10).

ENGLISH GRAIN APHID (Macrosiphum avenae) - WISCONSIN - Average about 6 per 50 sweeps in Vernon, Richland, La Crosse and Rock Counties in grains; 20 per 50 sweeps in early planted grain near Arena; oats rapidly infested. (Wis. Ins. Sur.). MINNESOTA - Found in most small grains in southern half of State; ranged 1-10 per 100 sweeps. (Minn. Ins. Rpt.). NEBRASKA - Ranged 20-30 per 10 sweeps in wheat in south central counties. (Rhine). MISSOURI - Increasing on small grains in central and north central districts; appearing on heads of wheat; however, no damage expected. (Houser, Thomas, Peters). KANSAS - Light on barley in southeast. (Gates, Brooks, May 7). CALIFORNIA - Medium in oat fields in Soquel, Santa Cruz County; cereal grains made excellent growth this season. (Cal. Coop. Rpt.). FLORIDA - Light on oats at Gainesville, Alachua County. (Mead, May 10).

GREENBUG (Schizaphis graminum) - WISCONSIN - Appearing on grain fields of Sauk and Green Counties; populations very low. (Wis. Ins. Sur.). MINNESOTA - One specimen found on bluegrass in Freeborn County and one in same host in Blue Earth County; none found in small grains. (Minn. Ins. Rpt.). KANSAS - Not noted on wheat or barley in southeast section; continues light in fields in southwest sections. (Gates, Brooks, May 8).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Found in St. Paul area May 4; counts increased May 4-13; widely found in southern half of State. Ranged 20-100 per 100 sweeps. (Minn. Ins. Rpt.). WISCONSIN - Adults first noted on overwintering grain April 22; increased 800-fold in 2 weeks. Now decreased in older grain; range 3-12 in most emerging oat fields. (Wis. Ins. Sur.). FLORIDA - Approximately 1 per sweep on yellow lupine, fairly common on rye, common and increasing on alfalfa; 75-100 adults and 200-400 nymphs per 100 sweeps on oats. (Mead, May 10).

LEAFHOPPERS - FLORIDA - Agallia constricta common and increasing on oats, alfalfa and yellow lupine. Graminella nigrifrons fairly common on rye, approximately 5 per sweep on oats and common on alfalfa. Cuerna costalis heaviest this spring on yellow lupine (135 adults and 40 nymphs) taken in 100 sweeps. Only 1 adult in 100 sweeps on alfalfa. Two adults and 25-30 nymphs of Homalodisca insolita taken in 100 sweeps of oats. Stirellus spp., mostly bicolor with some obtusatus adults and nymphs on oats; increasing. Empoasca spp. with some E. fabae (potato leafhopper) approximately 800 (mostly adults) taken in 100 sweeps of yellow lupine; common on alfalfa. All at Gainesville, Alachua County. (Mead, May 10).

RICE STINK BUG (Oebalus pugnax pugnax) - FLORIDA - Averaged 120 adults and 25 nymphs in 100 sweeps on oats; increased. Averaged 13 adults and 3 nymphs per 100 sweeps on rye; decreased. At Gainesville, Alachua County. (Mead, May 10).

BROWN STINK BUG (Euschistus servus) - FLORIDA - Averaged 8 adults and 5 nymphs per 100 sweeps on oats at Gainesville, Alachua County. (Mead, May 10).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Averaged 4 adults and 8 nymphs per 100 sweeps on oats at Gainesville, Alachua County. (Mead, May 10).

GREEN STINK BUG (Acrosternum hilare) - WISCONSIN - Averaged 1 per 100 sweeps in grain field near Arena, (Wis. Ins. Sur.).

CHINCH BUG (Blissus leucopterus) - TEXAS - Moderate locally in grain sorghum in Guadalupe County. (Haby). OKLAHOMA - Light on corn checked in Marshall and Jefferson Counties (southeast); active in Garvin County (south central). (Okla. Coop. Sur.). ILLINOIS - Adults vary 0-340 (average 190) per 100 linear feet in wheat in central district. (Ill. Ins. Rpt.). CONNECTICUT - Infesting lawn at Newtown, Fairfield County. (Savos).

A LYGAEID BUG (Paromius longulus) - FLORIDA - Averaged approximately 5 adults and nymphs per sweep on oats; scarce on yellow lupine and alfalfa; 1-2 per sweep on rye at Gainesville, Alachua County. (Mead, May 10).

PLANT BUGS - CALIFORNIA - Adults of Irbisia californica and Thyrillus pacificus medium on barley fields in San Juan Bautista, San Benito County. (Cal. Coop. Rpt.). ARIZONA - Spanogonicus albofasciatus medium and appearing in alfalfa in Graham and Maricopa Counties. (Ariz. Coop. Sur.).

CEREAL LEAF BEETLE (Oulema melanopa) - MICHIGAN - First hatch of season May 10 in Berrien County research plots; 13 days after first eggs found in field. Young larvae common on native grasses and wheat near hibernation quarters. Adults continue common on wheat although many moving to preferred host plant, oats. No hatch observed on small oat plants to May 12. All larvae first instar; eggs, larvae and adults common in infested research plots. First natural adult mortality (death from old age) observed in field May 11. Overwintered adults likely to decline in numbers until early July. Low temperatures in April caused

egg deposition about 3 weeks later than in 1964. Warm weather during early May caused relatively early hatch; overall conditions roughly one week later than in 1964. Numbers in primary infestation area of Berrien and Cass Counties generally low except in local, scattered spots. Evidently suppression programs of 1963 and 1964 of major importance in delaying spread. (Ruppel, Ring). INDIANA - Adults active on wheat in St. Joseph and La Porte Counties; ranged 2-50 per 100 sweeps. First eggs of season found on oats; very light. No hatching observed. (Wilson, Shade, Hintz, May 8).

A WEEVIL (*Cosmobaris americana*) - CALIFORNIA - Adults and larvae taken in barley field at Fullerton, Orange County. This is a new county record. (Cal. Coop. Rpt., May 7).

A GRASS SAWFLY (*Dolerus* sp.) - ILLINOIS - Larvae present in wheat in central district. (Ill. Ins. Rpt.).

BROWN WHEAT MITE (*Petrobia latens*) - NEW MEXICO - Light to moderate in wheat and alfalfa fields near Jarales, Valencia County. Generally light in many fields checked in Bernalillo and Sandoval Counties. (Heninger). KANSAS - Populations declined. (Gates, Brooks, May 8).

WHEAT STEM MAGGOT (*Meromyza americana*) - MINNESOTA - Numerous adults, believed this species, collected in Freeborn, Faribault, Sherburne and Wright Counties on small grains. Ranged 25-150 per 100 sweeps. (Minn. Ins. Rpt.).

GRASSHOPPERS - NEW MEXICO - Nymphal surveys May 3-7 as follows: Very light hatch in Caprock-Tatum area, Lea County; Melrose area, Curry County; Tucumcari area, Quay County; and Mule Creek area, Grant County. First and second instars becoming abundant in some areas near Ramah and in spotted areas on Indian Reservation near Zuni in McKinley County. (PPC). OKLAHOMA - Nymphal surveys of several species on rangeland in Comanche, Cotton and Tillman Counties (south-west); Caddo County (west central); and Grady County (central) show infestations of 1-7 per square yard. Species found 90 percent *Ageneotettix deorum* (90 percent first instar). Other surveys show *Melanoplus* spp. present in damaging numbers in McAlester area, Pittsburg County. (Okla. Coop. Sur.). UTAH - Chiefly first and second instars noted about alfalfa fields and roadsides at Green River, Emery County. (Knowlton). WYOMING - Several species hatching on ditchbanks and fence rows adjacent to irrigated areas in Washakie County. (Marks). Range species beginning hatch in Platte County. (Pfadt). At altitude 4,400-4,800 feet counts per 100 square feet averaged as follows: Glendo - *Cordillacris occipitalis* first instar, 0.5; *Melanoplus confusus*, second instar, 0.5 and *Psoloessa delicatula*, adults, 4. Guernsey - *C. occipitalis*, first instar, 0.5 and *M. confusus*, first instar, 0.5. Wheatland - *Aulocara elliotti*, first instar 7, second instar 1; *C. occipitalis*, first instar 28; *Amphitornus coloradus*, first instar 2; and *M. confusus*, first instar 3 and third instar 1. (Marks). MISSOURI - *Melanoplus sanguinipes* (migratory grasshopper) young nymphs noted in Phelps County. (Wkly. Ins. Rpt., May 8). SOUTH DAKOTA - Hatching expected within week; populations expected high in number of areas of State. Early control recommended before July 1 along fence rows and in idle acres to prevent crop damage. (Kantack). MINNESOTA - Egg development in east-central and central districts as follows: *Melanoplus femurrubrum* (red-legged grasshopper) and *M. differentialis* (differential grasshopper) nearly all coagulated; *M. bivittatus* (two-striped grasshopper) all coagulated; *M. packardi* (Packard grasshopper) showed early eye spot development. Egg predators relatively high in Wright, Anoka and Washington Counties. Field in Wright County with 40 percent of egg pods with ground beetle larvae feeding on developing eggs. (Minn. Ins. Rpt.). WISCONSIN - Egg pods examined in Columbia and Sauk Counties show relatively high degree of predation. Some fields ranged as high as 50 percent. Some eggs of *M. femurrubrum* in early coagulated stage May 6 and 7. (Wis. Ins. Sur.).

SALT-MARSH CATERPILLAR (*Estigmene acrea*) - OHIO - Nine adults collected at Reynoldsburg, Franklin County, blacklight trap during 9-day period. Specimen collected in light trap near Hillsboro, Highland County, May 10. (Walker, Spilker, Rose).

GARDEN WEBWORM (Loxostege similalis) - IDAHO - Lawn generally infested at Moscow; required control. (O'Keefe).

TEXAS LEAF-CUTTING ANT (Atta texana) - TEXAS - Winged forms reported in Wilson, Wharton, Karnes, Cherokee, Rusk, Fayette, Harris, Austin, Travis, Gregg, Bexar and Limestone Counties. (Tex. Coop. Rpt.).

BANKS GRASS MITE (Oligonychus pratensis) - FLORIDA - Adults heavy and damaging centipede grass at Deerfield Beach, Broward County. (Clinton, May 5).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - Larvae nearing prepupal stage in Onondaga County. (N.Y. Wkly. Rpt., May 10).

FRUIT INSECTS

ROSY APPLE APHID (Anuraphis rosea) - CONNECTICUT - Curling leaves in some areas. (Savos, May 12). NEW YORK - Found in Columbia, Oswego, Wayne, Niagara and Orleans Counties. (N.Y. Wkly. Rpt., May 10). MARYLAND - Heavy, injured, poorly sprayed apple orchards in Hancock area, Washington County. (U. Md., Ent. Dept.). INDIANA - Very light in apple orchards in Knox County. (Cleveland, May 8).

APPLE APHID (Aphis pomi) - IDAHO - Severe on apple tree at Moscow. (O'Keefe). WISCONSIN - Newly hatched nymphs on apple in Madison, Dane County, May 6. (Wis. Ins. Sur.). NEW YORK - Common in Oswego County. (N.Y. Wkly. Rpt., May 10).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - NEW YORK - Hatching in Niagara County in late April. (N.Y. Wkly. Rpt.). WISCONSIN - Newly hatched nymphs on opening buds at Madison, Dane County, April 30; and in Door County May 7. (Wis. Ins. Sur.).

PEAR PSYLLA (Psylla pyricola) - CONNECTICUT - Most eggs hatched; nymphs easily found on unsprayed trees. (Savos, May 12). RHODE ISLAND - Numerous eggs, occasional adult and new nymphs in neglected orchard in Exeter, Washington County. (Mathewson).

TARNISHED PLANT BUG (Lygus lineolaris) - NEW YORK - Found in Dutchess County; fairly common in orchards in Ulster County; plentiful in Columbia County. (N.Y. Wkly. Rpt., May 10).

EUROPEAN RED MITE (Panonychus ulmi) - CONNECTICUT - Hatching in most areas. (Savos, May 12). NEW YORK - Overwintered eggs hatching at Gardiner, Ulster County. (N.Y. Wkly. Rpt., May 10). MARYLAND - Increasing in some orchards in Hancock area, Washington County. (U. Md., Ent. Dept.). OHIO - Females in orchard at Wooster, Wayne County. No eggs observed. (Forsythe). INDIANA - Eggs hatched April 15-20 in Vincennes area, Knox County. (Cleveland).

ORCHARD MITES - NEW YORK - Hatching in Dutchess, Ulster and Columbia Counties; no hatching observed in Orange County. (N.Y. Wkly. Rpt., May 10). MARYLAND - Tetranychus spp. generally increasing on apples in Hancock area, Washington County. (U. Md., Ent. Dept.). SOUTH CAROLINA - Tetranychus sp., probably T. telarius (two-spotted spider mite) numerous on trees in apple orchard. (Nettles et al., May 8). CALIFORNIA - T. telarius medium on peach plantings in Empire, Stanislaus County. (Fidel).

CODLING MOTH (Carpocapsa pomonella) - COLORADO - Most larvae pupated, no adults caught in bait traps. (Bulla). INDIANA - Adults emerged in Vincennes, Knox County, area. (Cleveland, Apr. 27). MARYLAND - Pupae present, no emergence observed in Hancock area, Washington County. (U. Md., Ent. Dept.). NEW YORK - First pupae found under tree bands in eastern area. (N.Y. Wkly. Rpt., May 3).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MARYLAND - Hatching began April 29 in Hancock area, Washington County. Numbers generally low. (U. Md.,

Ent. Dept.). NEW YORK - Observed in Columbia, Wayne and Orleans Counties. (N.Y. Wkly. Rpt., May 10).

FRUIT-TREE LEAF ROLLER (Archips argyrospilus) - NEW YORK - Observed in Monroe County. (N.Y. Wkly. Rpt., May 10). CONNECTICUT - Larvae common on unsprayed trees in New Haven and Storrs. (Savos, May 12).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - WISCONSIN - Larvae still in overwintering nests in Door County May 7. (Wis. Ins. Sur.).

BUD MOTHS - NEW YORK - Found in eastern Wayne County. (N.Y. Wkly. Rpt., May 3). CONNECTICUT - Larvae common on unsprayed trees in New Haven and Storrs. (Savos, May 12).

GREEN FRUITWORM (Lithophane antennata) - MARYLAND - Larvae conspicuously damaged fruit and leaves of pear trees at Fairland, Montgomery County. (U. Md., Ent. Dept.).

A SCARAB (Hoplia sp.) - CALIFORNIA - Larvae and pupae heavy in soil and on root of apple trees in Littlerock, Los Angeles County. (Cal. Coop. Rpt.).

LOCUST LEAF MINER (Xenochalepus dorsalis) - MARYLAND - Adults infesting leaves of apples near woodlands in Hancock area, Washington County. (U. Md., Ent. Dept.).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - CONNECTICUT - Now active in the State. (Savos, May 15).

GREEN PEACH APHID (Myzus persicae) - INDIANA - Very numerous in peach orchards in Vincennes area, Knox County. (Cleveland, May 5). UTAH - Active with light damage in peach orchards in Washington County (Thornley, Knowlton, May 10) and at Green River, Emery County (Knowlton). Moderate at Moab, Grand County. (Thornley).

PEACH TWIG BORER (Anarsia lineatella) - UTAH - Damage general and above normal in Washington County. (Thornley, Knowlton, May 10).

LESSER PEACH TREE BORER (Synanthedon pictipes) - INDIANA - Emerged in peach orchards in Vincennes area, Knox County. (Cleveland, May 5).

PLUM CURCULIO (Conotrachelus nenuphar) - NEW JERSEY - Small numbers active on Cabbot and Weymouth varieties of blueberries. Problem in peaches. (Ins.-Dis. Newsltr.). MICHIGAN - First adults of season collected in Livingston County. (Newman). OHIO - Egg laying in apricot fruit in Delaware, Delaware County. Adult taken in blacklight trap in Franklin County. (Gibson, Rose). INDIANA - Adults emerged in Vincennes, Knox County, area. (Cleveland, Apr. 27). TEXAS - Probably this species locally heavy on apricots in Comanche County. (Dickson).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Medium locally on plum trees in Yuba City, Sutter County; apple nursery stock in Dos Palos, Merced County; and apple trees in Fresno, Fresno County. (Cal. Coop. Rpt.).

A FRUIT-TREE MITE (Bryobia rubrioculus) - CALIFORNIA - Adults heavy on Santa Rosa plum trees in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.). UTAH - Most common mite damaging some peach orchards at Hurricane, Toquerville and Leeds, Washington County. (Thornley, Knowlton, May 10).

BLACK CHERRY APHID (Myzus cerasi) - NEW YORK - On sweet cherry in Orleans County and found in Niagara County. (N.Y. Wkly. Rpt., May 10). MICHIGAN - Adults and few nymphs present in Ingham County. (Wooley). OHIO - On sweet cherry at Wooster, Wayne County. (Forsythe).

OLEANDER SCALE (Aspidiotus hederæ) - CALIFORNIA - Heavy locally on avocado trees in San Luis Obispo, San Luis Obispo County. (Cal. Coop. Rpt.).

BLACK PECAN APHID (Melanocallis caryaefoliae) - GEORGIA - Moderate on pecans in Sumter County. Yellow species moderate to heavy on pecans in Pulaski, Peach and Sumter Counties. (Fletcher).

BLACK-MARGINED APHID (Monellia costalis) - OKLAHOMA - Heavy rains decreased populations on pecans in many areas. (Okla. Coop. Sur.).

PECAN PHYLLOXERA (Phylloxera devastatrix) - OKLAHOMA - First activity of season reported on pecans in Marshall and Jefferson Counties. (Okla. Coop. Sur.).

OBSCURE SCALE (Chrysomphalus obscurus) - OKLAHOMA - Moderate on pecans in McCurtain County. (Okla. Coop. Sur.).

PECAN NUT CASEBEARER (Acrobasis caryae) - ALABAMA - Small larvae entering nuts and shoots in orchards in Dallas and Bullock Counties. (Stone et al.). OKLAHOMA - Extensive survey indicates no eggs present. (Okla. Coop. Sur.).

WEEVILS - ALABAMA - Larvae of unidentified species light to heavy in growing shoots of pecans in Marengo, Tuscaloosa, Shelby, Butler and other counties. (Moore, Thompson, Jones, Holstun).

COTTONY-CUSHION SCALE (Icerya purchasi) - ARIZONA - Found on citrus in Phoenix, Maricopa County. (Ariz. Coop. Sur.).

TEXAS CITRUS MITE (Eutetranychus banksi) - FLORIDA - All stages moderately damaging leaves of sweet orange in nursery at Davie, Broward County. (Shirah, Apr. 26).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Larvae damaging orange trees in Santa Paula, Ventura County. (Cal. Coop. Rpt.).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - ARIZONA - Adults becoming numerous on backyard grape plantings in Phoenix area, Maricopa County. (Ariz. Coop. Sur.).

A LEAF BEETLE (Glyptoscelis squamulata) - CALIFORNIA - Medium, damaging grape shoots in Hanford, Kings County. (Cal. Coop. Rpt.).

LEAFHOPPERS (Erythroneura spp.) - ARIZONA - Light to medium on grapes in Yuma County. Populations persist in Maricopa County areas. (Ariz. Coop. Sur.).

RUSTY PLUM APHID (Hysteroneura setariae) - ARIZONA - Damaging terminal growth of grape runners in Stafford area, Graham County. (Ariz. Coop. Sur.).

CURRENT APHID (Capitophorus ribis) - WISCONSIN - Causing malformed leaves in Dane County. (Wis. Ins. Sur.).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - RHODE ISLAND - Adults appearing in Coventry area, Kent County. (Mathewson). NEW JERSEY - Out in numbers at Adelphia, Monmouth County. (Ins.-Dis. Newsltr.). MARYLAND - Adults and eggs light to moderate on potatoes and tomatoes in Caroline and Wicomico Counties. (U. Md., Ent. Dept.). GEORGIA - Larvae heavily damaging tomato plants in Spalding County. (Dupree). OKLAHOMA - Moderate on potato plants in Bryan County. (Okla. Coop. Sur.).

FLEA BEETLES - GEORGIA - Moderate on eggplant in Clarke County. (Smith). MARYLAND - Epitrix spp. adults heavy on potatoes and tomatoes at locations on Eastern Shore. (U. Md., Ent. Dept.). OHIO - Undetermined species damaging newly set tomato plants in Oxford, Butler County. (Daniel).

POTATO APHID (Macrosiphum euphorbiae) - MARYLAND - Light to moderate on potatoes and tomatoes at locations in Caroline and Wicomico Counties. (U. Md., Ent. Dept.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH CAROLINA - Egg mass noted on potato plant in Pasquotank County, May 10. (Mount).

TOBACCO BUDWORM (Heliothis virescens) - OKLAHOMA - First adults of year taken in light trap in Stillwater, Payne County. (Okla. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Medium on potatoes in Glendale area, Maricopa County. (Ariz. Coop. Sur.).

BEE T ARMYWORM (Spodoptera exigua) - CALIFORNIA - Larvae medium, damaging bell peppers in Encanto, San Diego County. (Cal. Coop. Rpt.).

GARDEN SPRINGTAIL (Bourletiella hortensis) - MARYLAND - Adults heavy on potatoes, radishes and onions at locations in Wicomico County. (U. Md., Ent. Dept.).

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Heavy on cabbage in Tift County. (Girardeau).

IMPORTED CABBAGEWORM (Pieris rapae) - GEORGIA - Damaging cabbage in Putnam County. (Dupree).

FLEA BEETLES (Phyllotreta spp.) - MARYLAND - Adults general on cabbage and other crucifers at several locations in Wicomico County. (U. Md., Ent. Dept.).

CABBAGE MAGGOT (Hylemya brassicae) - NEW JERSEY - Four sticky board traps yielded 42 adults at Great Meadows. (Ins.-Dis. Newsltr.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - DELAWARE - First adults of season fairly common on young snap beans in southern Kent County and northern Sussex County. (Burbutis). MARYLAND - Adults increasing generally on young snap beans on lower Eastern Shore. (U. Md., Ent. Dept.). GEORGIA - Moderate on beans in home garden in Gwinnett County and on beans in Wayne County. (Vanderford, Cates). ALABAMA - Quite heavy on snap beans, lima beans and field peas in gardens in central section. Controls underway. (Thompson et al.).

PEA APHID (Acyrtosiphon pisum) - DELAWARE - Increasing in most areas. Average over 2 per sweep. (Burbutis). WISCONSIN - Hatched April 13 in Brodhead, Green County, and Mazomanie, Dane County, areas, 4 days later than in 1964. Counts range zero to 1500 per sweep in parts of Trempealeau County. Winged forms appearing. Some early pea fields in Spring Green, Sauk County, infested, counts very low, but could increase rapidly. (Wis. Ins. Sur.). OKLAHOMA - Heavy on garden peas in Marshall, Bryan, Kay and Blaine Counties. (Okla. Coop. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - GEORGIA - Moderate on beans in Wayne County. (Cates).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Damaging field peas in Tift County. (Leuck).

THRIPS - GEORGIA - Heavy on beans in Tift County. (Thompson).

SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) - UTAH - Present but not numerous on asparagus at Green River, Emery County. (Knowlton).

ONION MAGGOT (Hylemya antiqua) - NEW JERSEY - Sticky board traps yielded 25 adults on 4 boards at Great Meadows and 427 adults on 6 boards at Cedarville. (Ins.-Dis. Newsltr.).

BEET LEAFHOPPER (Circulifer tenellus) - WYOMING - Survey in Washakie County area May 4-12 revealed 712 in 3,124 square-foot samples of weed host areas. Averaged 0.23 per square foot compared with 0.11 in 1964. Efforts underway for controls on waste areas near irrigated land. (Lowry, Peterson, Thornley, Patch, Marks).

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - COLORADO - Adults active in fields near Fort Collins, Larimer County. (Jenkins).

WHITE GRUBS - COLORADO - Unidentified species reducing stands of sugar beets in Logan County. (Reid).

SQUASH BUG (Anasa tristis) - OKLAHOMA - First adults of season on watermelons in Terral area of Jefferson County. (Okla. Coop. Sur.).

WESTERN FLOWER THRIPS (Frankliniella occidentalis) - CALIFORNIA - Adults and nymphs medium on cucumber plants in Encanto, San Diego County. (Cal. Coop. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - ARIZONA - Becoming very abundant on melon plants in Yuma County. (Ariz. Coop. Sur.). NEW JERSEY - Weather favors activity. Count increased from 6 to 544 per 50 leaves in 1 strawberry field at Hammonton, Atlantic County. (Ins.-Dis. Newsltr.).

WEEVILS - GEORIGIA - Larvae damaging strawberry plants in Spalding County. (Dupree). MASSACHUSETTS - Brachyrhinus sp. caused serious injury to several strawberry fields in Falmouth, Barnstable County. (Tomlinson, May 7).

AN APHID (Pentatrichopus thomasi) - MARYLAND - Adults and nymphs moderate on strawberries at Brandywine, Prince Georges County. (U. Md., Ent. Dept.).

APHIDS - NEW JERSEY - Moderately abundant on strawberries. Winged forms appearing. (Ins.-Dis. Newsltr.).

STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) - NEW HAMPSHIRE - Adults active at Durham. (Conklin, May 10).

BLUEBERRY BUD MITE (Aceria vaccinii) - NORTH CAROLINA - Infesting blueberry twigs in Pender County. (Honeycutt, Falter).

EASTERN RASPBERRY FRUITWORM (Byturus rubi) - RHODE ISLAND - Adults common on raspberry in Peace Dale, Washington County. (Mathewson).

CELERY LOOPER (Anagrapha falcifera) - OHIO - Adult taken in blacklight trap at Reynoldsburg, Franklin County. (Walker, Spilker).

SEED-CORN MAGGOT (Hylemya platura) - NEW JERSEY - Sticky board traps caught 333 adults on 4 boards at Great Meadows and 280 adults on 6 boards at Cedarville. (Ins.-Dis. Newsltr.).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Appearing in home gardens in Sanpete County. (Thornley, Knowlton, May 10).

TOBACCO INSECTS

WIREWORMS - NORTH CAROLINA - Probably Conoderus vespertinus damaged 50 percent of plants in 9-acre field in Wake and 10-15 percent in Martin County tobacco fields. C. falli and C. lividus damaged 25 percent of plants in field near Rose Hill, Duplin County. (Woodard, Hodges, Mount).

BUDWORMS (Heliothis spp.) - GEORGIA - Light on tobacco in southern area. (French, Girardeau).

HORNWORMS (Protoparce spp.) - GEORGIA - Light on tobacco in Tift County. (Girardeau).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Light, spotted populations in Jackson, Nueces and Victoria Counties. (Texas Coop. Rpt.). Found in 5 of 14 fields inspected in McLennan-Falls County area. Ranged 0-416; averaged 50 per acre. Six weevils collected on flight screens; survival percentage in hibernation cages as follows: 1.1 in 2 cages containing 1,000 field collected weevils installed October 29; 9.6 in cage containing 136 weevils removed from ground trash and rehibernated December 2; and 15.8 in cage containing 152 weevils removed from ground trash and rehibernated in March, 1965. One weevil removed from 3 cages containing green bolls collected in November and placed on soil surface and 2 from 3 cages containing green bolls placed on screens 6 inches above soil surface in November. One weevil removed from 6 cages containing bollie cotton collected from standing stalks in March. (Cowan et al.). ALABAMA - Adults light on young cotton in field in Geneva County. (Stephenson, Johnson). Adults out of hibernation in Bullock and Tuscaloosa Counties. (Stone, Lavendar). Survey in 100-acre cotton field in Lowndes County in 6-8 leaf stage revealed rather high infestations of adults; 8 collected from 132 linear feet of row, equivalent to about 900 weevils per acre. Another field in 2-leaf stage in Dallas County contained average of 44 adults per acre. (Woodruff, Culpepper).

WIREWORMS - MISSISSIPPI - Larvae reported eating cotton seed in several delta county fields; at least 160 acres replanted because of damage. (Pfrimmer et al.).

THRIPS - ARIZONA - Frankliniella occidentalis (western flower thrips) medium to heavy; continues damage to cotton in eastern area; threatens to become of economic importance in central area. (Ariz. Coop. Sur.). TEXAS - Light in Harris and Victoria Counties. Light to heavy in Refugio, Calhoun, De Witt, Wharton, Houston, Madison, Walker and Jackson Counties. Moderate in Anderson, Brazoria, Red River, Zavala and Williamson Counties. (Texas Coop. Rpt.). Heavy rains slowed movement to cotton in McLennan-Falls County area. Light in 4 systemically treated fields; none in 2. In 8 untreated fields inspected, heavy in 1, medium in 1, light in 5 and none in 1. (Cowan et al.). MISSISSIPPI - Increasing in some delta county fields. (Pfrimmer et al.). ALABAMA - Light to heavy in cotton throughout much of State. Isolated and heavy infestations occurring in few untreated fields in Marengo, Tuscaloosa and Shelby Counties. Lesser numbers on some cotton in Fayette, Dallas, Morgan and Lee Counties. Some controls used in Shelby County. (McQueen et al.). GEORGIA - Light to heavy on cotton in northwest, north and northeast areas. (Johnson). Light to heavy in southern area. (French).

BOLLWORM (Heliothis zea) - ARIZONA - Small number of eggs found on cotton throughout central area; no larvae found. (Ariz. Coop. Sur.). TEXAS - Reported in most cotton fields in Rio Grande Valley; few heavy populations. Feeding on terminal growth in Live Oak and Bee Counties. Light in areas of Brazoria, Houston, Madison, Walker and Nueces Counties. (Texas Coop. Rpt.). Two larvae collected on Indian paintbrush and reared to fifth instar identified as H. virescens (tobacco budworm) in McLennan-Falls County area. Total identified to date from all hosts: 113 H. zea and 2 H. virescens. (Cowan et al.). ALABAMA - Young larvae of Heliothis spp. caused some damage to buds of 8-leaf stage cotton in Lowndes County. Numerous eggs noted. (Woodruff et al.).

BEE T ARMYWORM (Spodoptera exigua) - ARIZONA - Light to medium on cotton in Graham, Yuma and Maricopa Counties; some controls necessary in Yuma County. (Ariz. Coop. Sur.).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - TEXAS - Occasional specimens found in 4 fields in McLennan-Falls County area. (Cowan et al.).

BLACK CUTWORM (Agrotis ipsilon) - CALIFORNIA - Larvae heavy; damaging cotton plantings in Weedpatch, Kern County. (Cal. Coop. Rpt.).

GRANULATE CUTWORM (Feltia subterranea) - ARIZONA - Controls necessary in Yuma County cotton fields previously planted to lettuce. Light in Solomon area, Graham County. (Ariz. Coop. Sur.).

CUTWORMS - MISSOURI - Causing severe loss of stand in at least one cotton field in Dunklin County. (Harrendorf, Jones, Keaster). TEXAS - Occasional specimen noted in field in McLennan-Falls County area. (Cowan et al.). MISSISSIPPI - Increasing in some delta county fields. (Pfrimmer et al.). SOUTH CAROLINA - Unusually severe on farm in Sumter County. (Bowen, May 11).

GARDEN WEBWORM (Loxostege similalis) - TEXAS - Caused light damage in some fields in Wharton and Williamson Counties. (Texas Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Ten adults from 3 cages containing green bolls in November in McLennan-Falls County area and placed on soil surface; 3 from cages containing green bolls placed on screens 6 inches above soil surface in November. In 6 cages containing 100 pounds of bollie cotton collected in March from standing stalks, 13 moths emerged. (Cowan et al.). ARIZONA - Live larvae were found in the top 2 inches of soil on a farm in Graham County. Adult emergence in experimental cages located at Mesa and Safford increasing. (Ariz. Coop. Sur.).

COTTON FLEAHOPPER (Psallus seriatus) - TEXAS - Ranged 5-40 per 100 terminals in Nueces, Jim Wells, Live Oak, Victoria, Refugio and Calhoun Counties. Damaging in only few fields in Rio Grande Valley. Light in Madison, Houston, Harris, Williamson, Brazoria, Anderson and Jackson Counties; moderate in Wharton County and heavy in Red River County. (Texas Coop. Rpt.). Averaged 3 per 100 linear feet of row in 6 systemically or other treated fields in McLennan and Falls County area; ranged 0-22.3. Averaged 3.5 in 8 untreated fields; ranged 0-14. Overall average 3.2. Horesemint, a host plant, in all stages of growth from seedling to full bloom. Inspections in 5 fields showed very heavy buildup on this host; average 11 per plant. Heavy crop of evening-primrose also present; 400 per 75 sweeps on this host. (Cowan et al.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Nymphal populations increasing in cotton in Pinal and Maricopa Counties. (Ariz. Coop. Sur.).

COTTON APHID (Aphis gossypii) - TEXAS - Light from Bee, Victoria, Calhoun and Brazoria Counties. (Texas Coop. Rpt.).

APHIDS - MISSISSIPPI - Present in many delta county fields. (Pfrimmer et al.). GEORGIA - Light on cotton in southern area. (French).

SPIDER MITES - ARIZONA - Tetranychus telarius (two-spotted spider mite) scattered and heavy; required treatments in Yuma and Maricopa Counties. (Ariz. Coop. Sur.). TEXAS - Light on cotton in Jim Wells, Houston, Madison and Walker Counties. (Texas Coop. Rpt.). ALABAMA - Tetranychus spp. spotted and light on 3 and 4-leaf cotton on 2 farms in Tuscaloosa County. (Holstun et al.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

CONIFER BARK BEETLES - ARKANSAS - Dendroctonus terebrans (black turpentine beetle) and Ips spp. activity increasing but still below normal. (Ark. Forest Pest Rpt., May). TEXAS - Dendroctonus frontalis (southern pine beetle) increased during April from low levels in March. Total of 64 new infestations in Hardin, Jasper, Liberty, Newton, Orange, Polk and Tyler Counties. Activity reported in San Augustine and San Jacinto Counties. D. terebrans heavy in 1,000-acre loblolly pine stand in Orange County. Scattered on loblolly and shortleaf pines in Trinity and Houston Counties. Ips avulsus, I. grandicollis and I. calligraphus increasing in association with D. frontalis injury. (Texas Forest Pest Comm., Apr. Rpt.; Williamson).

CONIFER SAWFLIES (Neodiprion spp.) - ARKANSAS - Considerable defoliation by N. taedae linearis in Calhoun and Union Counties. Larvae going into soil. Infestations less intense than in 1964. (Ark. Forest Pest Rpt., May). NEVADA - Variable, spotted, light to medium infestations of early instars of N. edulicolis on pinyon pine above Panaca toward Modena Summit; light, spotted infestations at Oak Springs Summit, Lincoln County. (Bechtel, Zoller).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - INDIANA - Larvae infesting jack pine and Virginia pine in Tippecanoe County. (Schuder, May 8). MICHIGAN - Hatching widespread in southeastern section. First-stage larvae averaged 5 colonies per 5-foot tree in 2 Scotch pine plantations in Livingston County. (Newman). OHIO - A small infestation in Scotch pine near Cincinnati, Hamilton County. Larvae found at rate of 4 per needle. (Rose).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - MICHIGAN - Larval injury appearing on new growth of Scotch pine in Livingston County; 22 live and 3 dead larvae found in a 25-twigg sample. (Newman).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - NEW YORK - Adults active in Japanese black pine plantation at East Moriches, Suffolk County. (N.Y. Wkly. Rpt., May 10). ALABAMA - Last-stage larvae extremely damaging to ornamental pine planting in Tuscaloosa County. (Holstun).

A PINE TIP MOTH - GEORGIA - Heavy on young pines in Athens area. (Rodney, Coleman). ARKANSAS - First generation larval activity noticeable in southern area. (Ark. Forest Pest Rpt., May).

SPRUCE NEEDLE MINER (Taniva albolineana) - NEW YORK - Damage observed in Wayne County. (N.Y. Wkly. Rpt., May 10).

PINE TUBE MOTH (Argyrotaenia pinatubana) - NEW YORK - Adults active in Japanese black pine plantation at East Moriches, Suffolk County. (N.Y. Wkly. Rpt., May 10).

MITES - NEW JERSEY - Undetermined species heavy on spruce and pine in central counties. (Ins.-Dis. Newsltr.). ILLINOIS - Oligonychus ununguis (spruce spider mite) moderate on pine in Lee County. (Ill. Ins. Rpt.). RHODE ISLAND - Adults of Nalepella tsugifoliae active. Eggs very numerous on hemlock in nursery in Peace Dale, Washington County. (Mathewson).

PINE SPITTLEBUG (Aphrophora parallela) - NORTH CAROLINA - Spittle masses on loblolly pines in several areas of Montgomery County. (Whitfield). WISCONSIN - Spittle masses on windbreak white and red pines in western Dane and southern Sauk Counties. (Wis. Ins. Sur.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - IOWA - Hatched at Ames, May 9; 16 days earlier than usual. Controls urged. (Iowa Ins. Inf.).

A MARGARODID SCALE (Matsucoccus acalyptus) - NEVADA - Heavy on many pinyon pines, especially smaller trees, in Oak Springs Summit area, Lincoln County. (Bechtel, Zoller).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - VERMONT - Moderately heavy in Rutland County; tents in Burlington, Chittenden County, and Montpelier, Washington County, areas; hatching on wild cherry in Leicester, Addison County. (Nielson May 10). CONNECTICUT - Feeding on trees and shrubs in many areas. (Savos, May 15). RHODE ISLAND - Tents increasingly conspicuous statewide, population high. (Mathewson, Veilleux). OHIO - Defoliation of wild cherry trees continues severe in southern section. In Hamilton County, larvae have mostly left the host trees and are on surrounding vegetation. In Clermont County, larvae crawling over trees, shrubs, walks and grass; seem particularly numerous this year. (Hamilton, Rose). INDIANA - Continues severe with heavy migrations in southern sections of State. Second-stage larvae in Porter County. (Huber, Lehker, Matthew, Schuder, May 8). ILLINOIS - Light to moderate, mostly on wild cherry in northern half of

State. (Ill. Ins. Rpt.). MICHIGAN - Hatching underway, 90 percent of colonies sampled in Livingston County had second instars. Remainder with first instars. (Flink, Newman).

GREAT BASIN TENT CATERPILLAR (Malacosoma fragile) - UTAH - Stripping foliage of several hundred cottonwood trees in Moab area of Grand County. Some trees 75-95 percent defoliated. (Knowlton, Thornley). Destructive to cottonwood foliage in Shivwit Indian Reservation area and damaging shrubs in Virgin River area of Washington County. (Dorst, Knowlton, May 5).

FOREST TENT CATERPILLAR (Malacosoma disstria) - MINNESOTA - Larvae late in first instar. (Minn. Ins. Rpt.).

SPRING CANKERWORM (Paleacrita vernata) - KANSAS - Light in Riley and Shawnee Counties. (Gates, Brooks, May 7). MICHIGAN - All hatched in Livingston County. (Newman).

CANKERWORMS - NEW YORK - Hatching 30-40 percent complete at Cold Spring Harbor, Suffolk County. (N.Y. Wkly. Rpt., May 10). NEW JERSEY - Active on shade trees in central counties. (Ins.-Dis. Newsltr.). MINNESOTA - First-stage larvae in Minneapolis-St. Paul area. (Minn. Ins. Rpt.). NORTH DAKOTA - Hatching underway in Bismarck, Jamestown and other southeastern areas. (Frye).

GYPSY MOTH (Porthetria dispar) - NEW HAMPSHIRE - Eggs hatching at North Conway. (McFall, May 10). VERMONT - First hatching at West Rutland, Rutland County. Ooencyrtus kuwanai (an encyrtid) attacking eggs in same area. (Nielsen, May 5). CONNECTICUT - Feeding on trees and shrubs in many areas. (Savos). RHODE ISLAND - Larval feeding noticeable in section of Lincoln, Providence County. (King). NEW YORK - Hatching in Kerhonkson area, Ulster County. Also hatching in Nissequogue and Stony Brook areas of Suffolk County where egg clusters are heavy - 300-3,000 per acre. PENNSYLVANIA - Eggs 50 percent hatched in Delaware Township, Pike County. (Walter, May 5).

LARCH CASE BEARER (Coleophora laricella) - CONNECTICUT - Generally infesting 25-30 larch trees in New Hartford, Litchfield County, for third year. (Johnson, May 10). NEW YORK - Light on roadside larches at Newfield, Tompkins County. (N.Y. Wkly. Rpt., May 10).

CALIFORNIA OAKWORM (Phryganidia californica) - CALIFORNIA - Larvae continue medium on oak trees in Santa Rosa, Sonoma County. (Cal. Coop. Rpt.).

MAY BEETLES (Phyllophaga spp.) - OHIO - Collected by hundreds in a light trap in Reynoldsburg, Franklin County, May 3-15. Adults attacking sugar maple and oak. Other reports of feeding damage from Oxford, Butler County. Apparently P. ephilida is most common in southwestern section of State but P. tristis and P. rugosa also present. (Walker, Spilker, Boesel).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEVADA - Adults feeding on foliage in Caliente, Lincoln County. No eggs or larvae observed. (Bechtel, Zoller). ARIZONA - Heavy populations defoliating elms throughout Maricopa and Pinal Counties. (Ariz. Coop. Sur.). OKLAHOMA - Moderate on elms in Stephens, Murray and Kingfisher Counties; light in Cleveland and Woodward Counties. Larval feeding heavy in Payne County. (Okla. Coop. Sur.). ALABAMA - Hatching light on elms in central section. (McQueen). MARYLAND - Adults on Chinese elms at Glendale, Prince Georges County. (U. Md., Ent. Dept.). DELAWARE - Adults and fresh eggs fairly common on elms in a Sussex County area; injury moderate. (Burbutis).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Medium population of adults in residence in Colusa, Colusa County. This is a new county record. (Cal. Coop. Rpt.). KANSAS - Emergence underway. (Gates, Brooks, May 7).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - IOWA - Emerged in numbers in central area, May 8-9. (Iowa Ins. Inf.). NEW YORK - Adults emerging from hibernation and active. (N.Y. Wkly. Rpt., May 10).

A LEAF BEETLE (Chrysomela interrupta) - OKLAHOMA - Heavy numbers defoliating willows in several areas of State; also damaging cottonwood and tamarix in Marshall County. (Okla. Coop. Sur.).

BOXELDER BUG (Leptocoris trivittatus) - NEVADA - Heavy nymphal and adult infestations on boxelder in Panaca, Lincoln County. (Bechtel, Zoller).

BOXWOOD LEAF MINER (Monarthropalpus buxi) - DELAWARE - Heavy in boxwood in area of New Castle County; most larvae pupated. (Burbutis).

BIRCH LEAF MINER (Fenusa pusilla) - VERMONT - Laying eggs on birch leaves in Burlington area, Chittenden County. (Nielsen, May 9). NEW HAMPSHIRE - Adults emerging at Dover and Durham. (Mason, Conklin, May 10). RHODE ISLAND - Adults very numerous in birch in Kingston, Peace Dale and Exeter, Washington County. (Mathewson).

BOXWOOD PSYLLID (Psylla buxi) - DELAWARE - Infesting boxwood in area of New Castle County. (Burbutis).

WOOLLY APPLE APHID (Eriosoma lanigerum) - SOUTH CAROLINA - Extremely numerous, causing curled leaves on American elm and cork elm. (Nettles, et al., May 11). DELAWARE - Present on elms in a Sussex County area. (Burbutis).

ELM LEAF APHID (Myzocallis ulmifolii) - MARYLAND - Nymphs infesting American elms at locations in Harford and Prince Georges Counties. (U. Md., Ent. Dept.).

APHIDS - RHODE ISLAND - Undetermined species very common on leaves of sycamore maple in Peace Dale, Washington County. Lady beetles numerous. Aphis fabae (bean aphid) common on euonymus in Peace Dale. (Mathewson). GEORGIA - Undetermined species heavy on poplar and oak in Griffin. (Beckham). WISCONSIN - Misshapened blossoms and leaves of snowball bushes in Dane County where no treatment applied for Anuraphis viburnicola (snowball aphid). (Wis. Ins. Sur.). NEVADA - Variable, light to heavy infestations of Periphyllus negundinis (boxelder aphid) on boxelder in Caliente and Panaca, Lincoln County. (Bechtel, Zoller). CALIFORNIA - Eggs and adults of Prociphilus fraxinifolii heavy on Arizona ash in Artois, Glenn County. (Cal. Coop. Rpt.).

A GEOMETRID MOTH (Coryphista meadii) - CALIFORNIA - Medium larval populations on Oregon-grape (Mahonia sp.) nursery stock in Merced, Merced County. (Cal. Coop. Rpt.).

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia chrysanthemi) - CALIFORNIA - Larvae medium, damaging chrysanthemum plants locally in San Diego, San Diego County. (Cal. Coop. Rpt.).

NATIVE HOLLY LEAF MINER (Phytomyza illicicola) - MARYLAND - Adults emerging from mines on American holly at locations in Anne Arundel, Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.).

A BUPRESTID BEETLE (Anthaxia aeneogaster) - CALIFORNIA - Adults heavy, completely destroying California-poppy flowers in Yuba City, Sutter County. (Cal. Coop. Rpt.).

COCCIDS - CONNECTICUT - Lepidosaphes ulmi (oystershell scale) infesting lilac at Granby and Windsor Locks, Hartford County. (Savos). SOUTH DAKOTA - Saissetia sp. on Boston fern in De Smet. (Jones). COLORADO - L. ulmi eggs reaching hatching stage. Crawlers expected within next few weeks. (Jenkins). ARIZONA - Icerya purchasi (cottony-cushion scale) on euonymus plants in Phoenix, Maricopa County. (Ariz. Coop. Sur.). CALIFORNIA - Aspidiotus lataniae heavy on trees along streets in Santa Barbara, Santa Barbara County. Parlatoria oleae (olive scale) adults heavy on Modesto ash tree nursery stock in Merced, Merced County. (Cal. Coop. Rpt.).

SNAILS - ARIZONA - Undetermined species heavy and damaging lawns and flowers in Phoenix area of Maricopa County. (Ariz. Coop. Sur.).

PRIVET MITE (Brevipalpus obovatus) - CALIFORNIA - Nymphs and adults heavy on privet in Hanford, Kings County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - UTAH - Mosquito larvae common and some adults in Castle Dale-Huntington area of Emery County. (Knowlton). NEW MEXICO - Probably Aedes vexans light to very abundant in fields in Albuquerque area, Bernalillo County. Very annoying to people working in fields. (Heninger). OKLAHOMA - Larvae of undetermined species average 25 per dip in temporary pools in Stillwater area, Payne County. (Okla. Coop. Sur.). MISSOURI - Mosquito problems appeared in several sections of State. (Wkly. Ins. Rpt.). IOWA - Aedes vexans emerging from road ditch pools. (Iowa Ins. Inf., May 11). MINNESOTA - First large-scale hatch of A. vexans this season following heavy rains in areas of Anoka, Hennepin and Washington Counties. As of May 14, most larvae from this brood were in the third and fourth stage. Emergence of adults expected about May 19 or 20. Most of the single-brooded species emerged in the Metropolitan Mosquito Control District during week ending May 14. (Minn. Ins. Rpt.). WISCONSIN - Many larvae in pools near Wautoma on April 29; adult activity and biting occurred near wooded areas week ending May 14. Although most were unidentified, the species biting near Mazomanie was A. trivittatus. (Wis. Ins. Sur.). MICHIGAN - First general flights of adults of undetermined species occurred during week ending May 14 in many Lower Peninsula counties. Large numbers of recently emerged Aedes adults, probably A. fitchii or A. excrucians, sampled in Livingston County, May 11. (Newman, Ruppel). ILLINOIS - Unidentified species reported abundant by fishermen and homeowners in eastern and southern areas. (Ill. Ins. Rpt.). VERMONT - Undetermined species attacking livestock in Montpelier area, Washington County. (Nielsen, May 10). GEORGIA - Adults of undetermined species heavy in area of Rome. (Smith). FLORIDA - Mansonia perturbans adults biting man at Goldhead Branch State Park, Clay County. (Mead, May 8).

BLACK FLIES - VERMONT - Attacking livestock in Montpelier area, Washington County. (Nielsen, May 10). RHODE ISLAND - Causing distress to residents locally in West Greenwich, Kent County. (Hannah). MARYLAND - Undetermined species biting children at Lanham, Prince Georges County. (U. Md., Ent. Dept.). WISCONSIN - Considerable activity and biting in southern Rock County, May 11. (Wis. Ins. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Populations heavy in Murray, Stephens, Garvin and Bryan Counties; moderate in Choctaw, Cleveland and Noble Counties. Averaged 200 per head on steers in Caddo County. (Okla. Coop. Sur.). MISSOURI - Counts on cattle in north central, central and south central districts ranged 100-200 flies per animal. (Thomas). IOWA - None observed on cattle from Sioux City to Ames. (Iowa Ins. Inf., May 7). ILLINOIS - Varied 0-50 per animal on cattle in northern area. (Ill. Ins. Rpt.). OHIO - Counts of 100 flies per cow on backs of dairy cattle in Highland County near Rocky Fork State Park. Clusters of 25-30 flies around horns of cattle. (Rose). ALABAMA - Continues building up on untreated cattle and reported quite heavy in Bullock County. (Stone).

FACE FLY (Musca autumnalis) - VERMONT - Ranged 1-2 per animal. (Nielsen, May 10). ILLINOIS - Very light (0-2 per face) on cattle in northern area. (Ill. Ins. Rpt.). IOWA - None observed on cattle from Sioux City to Ames. (Iowa Ins. Inf., May 7). MISSOURI - Counts of 0-5 flies per face of cattle in central and north central districts. (Thomas).

HOUSE FLY (Musca domestica) - VERMONT - Continues low in and around dairy barns. (Nielsen, May 10). OKLAHOMA - Averaged 6 per Scudder grid in untreated barns in Payne County. Heavy in houses and barns in Blaine County. (Okla. Coop. Sur.).

TABANIDS - SOUTH CAROLINA - Deer flies attacked a person in Chester, Campbell County. (Nettles et al., May 11). ALABAMA - Adults of horse flies and deer flies annoying over most of State. (McQueen). OKLAHOMA - Tabanus lineola complex averaging 1-2 per head in favorable locations in Payne County. Tabanus spp. light on cattle in Choctaw County. Chrysops spp. active but light on cattle in Choctaw County. (Okla. Coop. Sur.).

SCREW-WORM (Cochliomyia hominivorax) - ARIZONA - During period of May 2-8, 16 cases found in following counties: Cochise 6, Graham 2, Pima 1, Greenlee 3, Pinal 3 and Santa Cruz 1. (Ariz. Coop. Sur.). See also page 521.

SECONDARY SCREW-WORM (Cochliomyia macellaria) - SOUTH DAKOTA - Tentatively determined as this species; infesting wounds in cattle in vicinity of Belle Fourche. (Jones).

COMMON CATTLE GRUB (Hypoderma lineatum) - KANSAS - Adults active in Greenwood County. (Gates, Brooks, May 7). OHIO - Five to 20 grubs per dairy cow in a Holstein and Jersey mixed herd of 40 animals. Although flies primarily in the bump stage, emergence began by May 5 in Guernsey County. (Galford).

CATTLE GRUBS (Hypoderma spp.) - UTAH - Adults appearing in Sanpete County. (Knowlton, Purnell). Attacking cattle in areas of Emery and Carbon Counties. (Knowlton).

BLACK BLOW FLY (Phormia regina) - KANSAS - Larvae collected from cattle. (Gates, Brooks, May 7). NORTH CAROLINA - Larvae infesting dehorning and castration wounds of beef cattle on a Jones County farm. Det. by D. A. Mount. (Franck).

A BITING MIDGE (Leptoconops kerteszi) - UTAH - Annoying people about Great Salt Lake and into nearby communities. (Knowlton).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Heavy on hogs in Bryan County. (Okla. Coop. Sur.).

CATTLE LICE - UTAH - Although 70 percent of cattle in Emery County have been dipped for lice, some herds still heavily infested. (Knowlton). OKLAHOMA - Populations of several species remain heavy on cattle in Stephens and Bryan Counties. (Okla. Coop. Sur.). MISSOURI - Undetermined species infesting cattle in central and north central districts. (Thomas).

AMERICAN DOG TICK (Dermacentor variabilis) - RHODE ISLAND - Numerous reports of heavy populations in Washington, Providence, Kent and Newport Counties. Population apparently higher than in 1964. (Mathewson, Veilleux). MASSACHUSETTS - Active in Plymouth and Barnstable Counties. (Tomlinson, May 7). MARYLAND - Considerable concern to homeowners near woodlands in areas of Prince Georges County. (U. Md., Ent. Dept.). OHIO - Probably this species reported from central and southern areas. Reports of May 6-12 indicate activity is general. (Shepeard, Lukens, Rose). MICHIGAN - Heavy infestations in Marquette and Menominee Counties. First seasonal collection in late April. (Nyquist, Bowers). MINNESOTA - Activity began first week of May and ticks appear to be very numerous. (Minn. Ins. Rpt.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Heavy on cattle in Haskell and Choctaw Counties; moderate in Bryan County. (Okla. Coop. Sur.).

TICKS - UTAH - Infesting many cattle and horses in areas of Millard and Tooele Counties. (Knowlton). WISCONSIN - Activity has begun in southern counties; ticks numerous in Iowa County, May 9. (Wis. Ins. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

ANTS - IDAHO - Winged and wingless adults very numerous and a nuisance in some Nezperce locations. (Dailey). NEW MEXICO - Heavy around some homes in Las Cruces area, Dona Ana County. (Campbell). ARIZONA - Forelius foetidus a nuisance to many homeowners and heavy on lawns in Casa Grande area of Pinal County. (Ariz. Coop. Sur.).

CARPENTER BEE (Xylocopa virginica) - CONNECTICUT - Damaging homes in New Haven, Hamden, West Haven and Wallingford, New Haven County. (Savos).

ELM LEAF BEETLE (Galerucella xanthomelaena) - CONNECTICUT - In homes in Glastonbury, Hartford County, and Brooklyn, Windham County. (Savos). RHODE ISLAND - Complaints of beetles in house in Barrington. (Veilleux).

CLOVER MITE (Bryobia praetiosa) - CONNECTICUT - Continues a major household pest statewide. (Savos). IOWA - Active around homes, (Iowa. Ins. Inf., May 11). KANSAS - More troublesome in lawns and houses in areas of Garden City, Finney County, and Hugoton, Stevens County, than in past years. (Gates, Brooks, May 7). COLORADO - Requests for information on control in Larimer, Denver and Montezuma Counties. (Hantsbarger).

ORIENTAL COCKROACH (Blatta orientalis) - IOWA - Noted in number of towns. (Iowa Ins. Inf., May 11).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - OHIO - Several inquiries about control and winged specimens from Franklin and Morrow Counties indicate that swarming activity is continuing in central area. (Delaplane, Dalrymple, Jones). RHODE ISLAND - Reports and specimens continue. (Mathewson, Veilleux).

WESTERN SUBTERRANEAN TERMITE (Reticulitermes hesperus) - CALIFORNIA - Reports from many areas. A medium infestation in the bath area in a residence in Lafayette, Contra Costa County; light in Hollister, San Benito County; damaging residences in Sacramento, Sacramento County. (Cal. Coop. Rpt.). IDAHO - A 3-year old home in Blackfoot generally infested. (Weston).

SUBTERRANEAN TERMITES - CONNECTICUT - Very active statewide. (Savos).

MILLIPEDS - GEORGIA - Large numbers around canning plant in Meriwether County. (Dupree).

BENEFICIAL INSECTS

LADY BEETLES - RHODE ISLAND - Eggs and adults very common wherever aphids occur. (Mathewson). CONNECTICUT - Very numerous in south-central section. (Savos). MICHIGAN - Generally light to moderate, less than 1 per 2 sweeps in Monroe and Livingston Counties on alfalfa; no larvae observed. Little effect on Acyrtosiphon pisum (pea aphid) populations. (Newman). Coleomegilla maculata adults noted preying on some eggs of Oulema melanopa (cereal leaf beetle) but considered minor importance in reducing numbers. (Ruppel). MINNESOTA - Quite abundant; averaged 20 per 100 sweeps. (Minn. Ins. Rpt.). ILLINOIS - C. maculata fuscilabris and Hippodamia tredecimpunctata adults varied 0-40 (averaged 15) and larvae varied 0-40 (averaged 6) per 100 sweeps in clover and alfalfa in northern area; larvae and adults abundant in western area. (Ill. Ins. Rpt.). IOWA - Averaged 5 per 10 sweeps in alfalfa infested with A. pisum. (Iowa Ins. Inf., May 11). NEW MEXICO - Larvae, pupae and adults in most fields infested with A. pisum and Therioaphis maculata (spotted alfalfa aphid). (N.M. Coop. Rpt.). ARIZONA - Coleomegilla spp. heavy in sweet corn fields in Glendale area, Maricopa County. All stages of Rodolia cardinalis (vedalia) on Icerya purchasi (cottony-cushion scale) infestations on citrus and euonymus in Phoenix, Maricopa County. (Ariz. Coop. Sur.). UTAH - Numerous on aphid infested rose foliage at Price, Carbon

County. (Knowlton). FLORIDA - Several hundred larvae, pupae and adults of Hippodamia convergens (convergent lady beetle) taken in 100 sweeps of alfalfa; oats and yellow lupine yielded few. (Mead, May 10).

GROUND BEETLES - MINNESOTA - Larvae feeding on 40 percent of grasshopper eggs in field in Wright County. (Minn. Ins. Rpt.).

BRACONIDS - MICHIGAN - Credited with keeping Acyrtosiphon pisum (pea aphid) populations reduced in Monroe and Livingston Counties. (Newman). WISCONSIN - Praon pequodorum appearing on pea fields infested with A. pisum. (Wis. Ins. Sur.).

AN ENCYRTID (Ooencyrtus kuwanai) - VERMONT - Feeding on Porthetria dispar (gypsy moth) eggs in West Rutland area, Rutland County. (Nielsen, May 5).

A PARASITIC WASP - NEW MEXICO - Unspecified species parasitizing Acyrtosiphon pisum (pea aphid) in alfalfa fields near Belen, Valencia County. (Heninger).

BEEES - NEW JERSEY - Pollination of blueberries at peak. (Ins.-Dis. Newsltr.). WISCONSIN - Apis mellifera (honey bee) active in apple and plum blossoms during past week. (Wis. Ins. Sur.).

DAMSEL BUGS - MINNESOTA - Noted in some fields. (Minn. Ins. Rpt.). ILLINOIS - Nabis sp. varied 0-40 (averaged 8) per 100 sweeps in clover and alfalfa in northern area. (Ill. Ins. Rpt.).

GREEN LACEWINGS (Chrysopa spp.) - FLORIDA - Adults averaged 9 per 100 sweeps on rye at Gainesville, Alachua County. (Mead, May 10). ILLINOIS - C. oculata (golden-eye lacewing) adults varied 0-10 per 100 sweeps in northern area; no larvae observed. Adults plentiful in western area. (Ill. Ins. Rpt.).

FLOWER FLIES - CONNECTICUT - Eggs very numerous in south-central section. (Savos). MICHIGAN - Generally light to moderate in alfalfa in Monroe and Livingston Counties. (Newman). WISCONSIN - Many larvae noted associated with aphid colonies. (Wis. Ins. Sur.).

MISCELLANEOUS INSECTS

PAINTED LADY (Vanessa cardui) - NEVADA - Heavy adult migrations in southern Lincoln and Nye Counties and Clark County. (Bechtel, Zoller).

TERMITES - FLORIDA - Incisitermes snyderi and Cryptotermes cavifrons adults caught in ultraviolet light trap at Gainesville, Alachua County. (Hetrick May 5, 9).

CORRECTIONS

CEIR 15(20):474 - AN ALYDID BUG (Alydus pilosus) should read Alydus pilosulus

CEIR 15(20):495 - AN AVOCADO SEED WEEVIL (Conotrachelus aquacate (Barber)) should read Conotrachelus aguacate (Barber).

STATUS OF THE SCREW-WORM (*Cochliomyia hominivorax*) IN THE SOUTHWEST

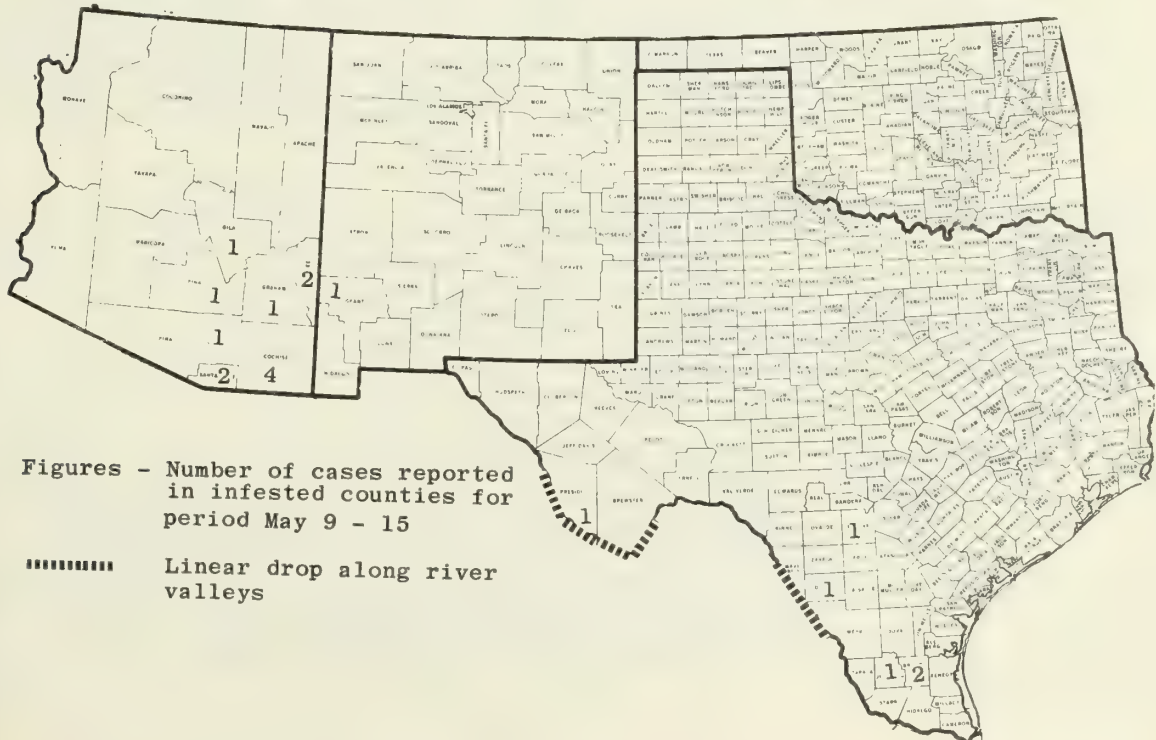
During the period May 9-15, 7 cases were reported in the Southwestern Eradication Area. Cases reported in TEXAS: Jim Hogg, Dimmit, Presidio and Medina Counties one each; Brooks County 2. NEW MEXICO: Grant County 1. In ARIZONA 12 cases reported: Pima, Pinal, Graham and Gila Counties one each; Santa Cruz and Greenlee Counties 2 each; Cochise County 4. The Republic of Mexico reported 98 cases: Sonora 51, Nuevo Leon 1, Chihuahua 26, Coahuila 2, Tamaulipas 2, Veracruz 7 and Durango 9. Sterile screw-worm flies released: Texas 5,413,050, New Mexico 742,000, Arizona 3,768,000, and Mexico 83,426,400.

Year	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area.						
1963	132	889	317	2,757	41.64	32.24
1964	15	57	253	2,850	5.92	2.00
1965	7	42	248	1,957	2.82	2.14

Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	68	381	72	616	94.44	61.85
1965	98	1,136	60	742	163.33	153.09

Table 2A. Mexican portion of Barrier Zone only.						
1964	63	346	34	165	185.29	209.69
1965	82	1,078	23	384	356.52	280.72

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm population in the United States. (Anim. Dis. Erad. Div.).



ADDITIONAL NOTES

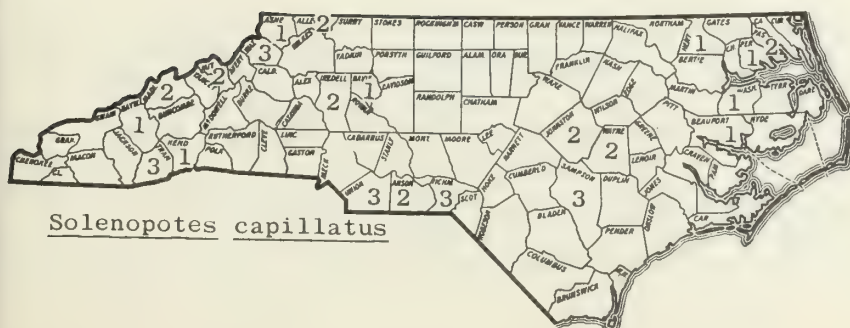
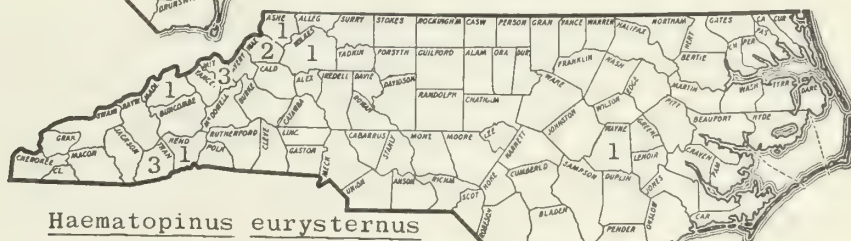
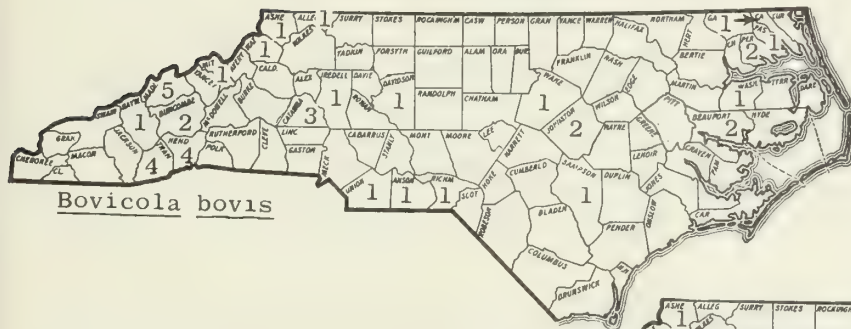
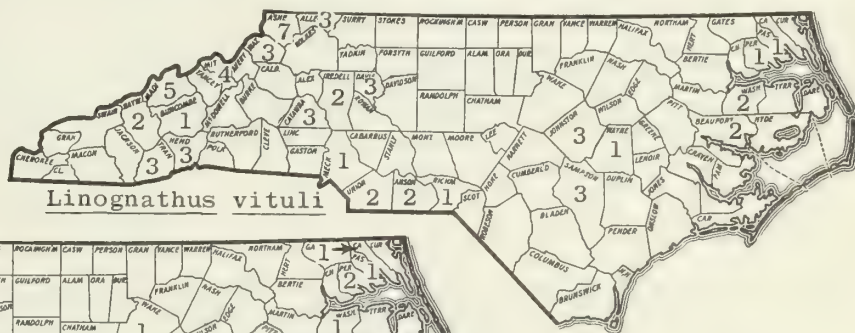
MASSACHUSETTS - ALFALFA WEEVIL (Hypera postica) became much more abundant in western area during past week. Damage noticeable in some fields; defoliation occurring. Counts per 100 sweeps by county: Berkshire 12 adults and 11 larvae, Hampden 22 adults and 73 larvae, Hampshire 4 adults and 277 larvae. CLOVER LEAF WEEVIL (H. punctata) ranged 1-3 larvae and CLOVER ROOT CURCULIO (Sitona hispidula) ranged 1-5 per 100 sweeps in western area; up to 12 adults per 100 sweeps of S. hispidula recorded in some fields. TARNISHED PLANT BUG (Lygus lineolaris) populations increased from 3 to 19 per 100 sweeps. PEA APHID (Acyrtosiphon pisum) not abundant. CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) most abundant leafhopper species in fields; ranged 3-6 per 100 sweeps. SPITTLEBUGS erratic in distribution in some fields; numerous in Hampden and Berkshire Counties. (Shaw).

NEW YORK - Fields in Dutchess County showed ALFALFA WEEVIL (Hypera postica) caused 20-100 percent damage to tips of knee-high alfalfa May 16. Crop severely damaged in dry areas; over 100 larvae per sweep. Continued relatively slow buildup in Ulster County; 1 or 2 fields show 50 percent tip damage. Many fields appear to be outgrowing feeding rate; 18-20 inches of growth common in many fields. Ranged less than one to about 10 per sweep in fields in Columbia County. ALFALFA SNOUT BEETLE (Brachyrhinus ligustici) now active; greatest numbers found in northern Jefferson County. PEA APHID (Acyrtosiphon pisum) scarce for time of year; no large infestations in central or eastern areas. None collected in yellow pan traps in sugar beet areas. SPITTLEBUGS continue moderate in alfalfa; heavy in some birdsfoot trefoil fields. FRUIT-TREE LEAF ROLLER (Archips argyrospilus) much lighter numbers in Ulster County than in previous years; no RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) eggs noted; heavy egg deposits noted in Orleans County May 11. APHIDS started buildup on fruit trees in Dutchess County. Adult PLUM CURCULIO (Conotrachelus nenuphar) jarred from peach tree in Columbia County May 13. EUROPEAN RED MITE (Panonychus ulmi) nymphs numerous in Clinton County on May 12, probably numerous earlier. Fair numbers of COLORADO POTATO BEETLE (Leptinotarsa decemlineata) in some Suffolk County areas. FLEA BEETLES active on radishes, beets and transplants in Niagara County; activity began May 10 in Erie County; now heavy. SPRINGTAILS damaging plants under tents in county. CABBAGE MAGGOT (Hylemya brassicae) eggs extremely heavy this year in Erie County. EUROPEAN CHAFER (Amphimallon majalis) feeding on lawns in Oneida County; GYPSY MOTH (Porthetria dispar) hatched May 11 in Oneida County. About 50 percent of egg masses hatched; survival rate appears high. FALL CANKERWORM (Alsophila pometaria) emerged week of May 10-15 in Cattaraugus County. (N.Y. Wkly. Rpt.).

INDIANA - Adult CEREAL LEAF BEETLE (Oulema melanopa) movement heavy from wheat to seedling oats in La Porte and St. Joseph Counties. (Wilson, Shade, Hintz). ALFALFA WEEVIL late instars and pupae continue plentiful on alfalfa in southern quarter of State. New adults appearing in Harrison County area. ALFALFA PLANT BUG (Adelphocoris lineolatus) adults very numerous; averaged 10 per sweep in alfalfa in Harrison County. MEADOW SPITTLEBUG (Philaenus spumarius) adults emerging in southern quarter of State; nymphal population unusually heavy for that area; averaged 1-2 per stem on alfalfa. (Wilson). Adult CODLING MOTH (Carpocapsa pomonella) emergence approximately 70 percent complete in Vincennes area, Knox County; 85 adults taken at 5 liquid bait traps on May 15. ORIENTAL FRUIT MOTH (Grapholitha molesta) adult activity increasing; 252 adults taken in 5 traps May 10-14 in same area. LESSER PEACH TREE BORER (Synanthedon pictipes) adult emergence increasing in orchards in Vincennes area. (Cleveland). OYSTER-SHELL SCALE (Lepidosaphes ulmi) hatching on silver maples at Lafayette, Tippecanoe County, May 10; approximately 2 weeks earlier than usual. SPRUCE SPIDER MITE (Oligonychus ununguis) unusually heavy in nurseries in Madison and Tippecanoe Counties; few trees heavily webbed. MAPLE PETIOLE BORER (Caulocampus acericaulis) infested several large sugar maples in Lafayette. (Schuder). MAY BEETLES (Phyllophaga spp.) adults defoliating pin oaks in Marion and Tippecanoe Counties. (Lehker, Schuder).

Cattle Lice Survey in North Carolina - 1965

Survey was conducted from the last week in January 1965 through the second week of March to determine the species of lice present on cattle and their distribution in the State. Collections were made from dairy and beef animals, depending upon availability; most collections were made from cattle in pens or small lots near barns. Examinations were limited generally to one or two animals at each farm, each animal being examined about the head, dewlap, neck, shoulders, rump, tail and twist. Four species known to occur in the United States were collected in North Carolina during this survey. Collections were made in the mountain counties (Alleghany, Ashe, Wilkes, Watauga, Mitchell, Madison, Haywood, Buncombe, Transylvania, Henderson), Piedmont counties (Catawba, Iredell, Davie, Davidson, Mecklenburg, Union, Anson, Richmond, Wake) and Coastal Plain counties (Johnston, Wayne, Sampson, Beaufort, Washington, Perquimans, Pasquotank, Camden, Hertford). LONG-NOSED CATTLE LOUSE (Linognathus vituli) was present in 64.4 percent of collections. CATTLE BITING LOUSE (Bovicola bovis) and Solenopotes capillatus were each present in 43.3 percent of the collections. SHORT-NOSED CATTLE LOUSE (Haematopinus eurysternus) was collected only one time outside the mountain counties; this collection was in Wayne County and was a valid collection on a native animal. All determinations were made by W. G. Bruce. Distribution of the four species, by county, are shown on the maps below. Figures indicate the number of times each species was collected in the various counties. (D. A. Mount).



HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the 712th meeting of the Hawaiian Entomological Society held in April 1965.

A single specimen of a CLERID BEETLE (Tillus notatus Klug) was collected on an orange tree at Kula, Maui, at approximately 3,500 feet elevation on February 19, 1965. This constitutes a new island record for this species which was first found on Oahu by Amy Suehiro early in 1939. (F. Bianchi).

Several specimens of two HISTERID BEETLES (Hister nomas Erickson and Pachylister caffer Erickson) were collected by N. Krauss, February 12, 1965, in cow dung on Parker Ranch, Hawaii. These collections constitute new records for the island of Hawaii as well as new State records for these species. Determined by Dr. H. Wenzel, who noted that both species are of African origin. There is no record of these beetles having been introduced into Hawaii. (M. Chong).

Two adults of a DUNG BEETLE (Onthophagus sagittarius (F.)) were collected during August 1964 by Y. Nakagawa on Molokai, for a new island record. Several specimens of this scarab were collected in light traps operated by the Hawaiian Sugar Planters Association Experiment Station at Ewa and Kunia, Oahu, in November and December 1964. This scarab was previously collected only in Manoa Valley, Oahu, in July 1964. There is no record of its introduction into Hawaii. (M. Chong).

A SARCOPHAGID FLY (Sarcophagula occidua (F.)) appears to be well established on the islands of Kauai, Maui, Molokai and Hawaii. A large number of specimens was obtained in fly traps operated on the islands of Molokai on December 16, Maui on December 18, and Kauai on December 20, 1963. During the period November 17-20, 1964, the species was taken in fly traps operated at the ports of Hilo, Kona and Kawaihae on the island of Hawaii. S. occidua, commonly found breeding in dog excrement, was first taken on Oahu in September 1961. It has not been recorded previously from the outer islands. (C. R. Joyce).

GRAY SUGARCANE MEALYBUG (Pseudococcus boninsis (Kuwana)) - An examination was made of a heavy infestation of mealybugs on buffalo grass (Stenotaphnum secundatum) in a lawn of a home in the Waialae-Kahala area of Honolulu. The mealybugs were determined as P. boninsis. This mealybug is rarely found on anything other than sugarcane, and its presence on buffalo grass is therefore worthy of note. P. boninsis has also been taken on native bunch grass (Enagrostis variabilis) on Oahu. The material from buffalo grass was heavily parasitized by an encyrtid wasp (Aphycus terryi Fullaway). (J. W. Beardsley).

Numerous VARIEGATED CUTWORM (Peridroma saucia (Hübner)) larvae were noted in a dead or moribund condition on March 5, 1965. These larvae were on foliage of various weeds, particularly Amaranthus sp. and Malva parviflora, along the lower Kula road at an elevation of approximately 2,000 feet on Maui. Specimens of diseased larvae were collected and submitted to the Division of Invertebrate Pathology, University of California, Berkeley. The disease organism was subsequently diagnosed as a nuclear polyhedrosis virus. Apparently this is the first record of a polyhedrosis disease of P. saucia in Hawaii. (J. W. Beardsley).

Several larvae of a NOCTUID MOTH (Anomis flava (F.)) have been collected on leaves of ornamental hibiscus and Hau (Hibiscus tiliaceus) in the Honolulu area during the past month. Determination was confirmed from adults reared from these larvae. These are the first local host records for A. flava, a recently introduced species. Elsewhere, this species is known to be a pest of cotton and eggplant, as well as Hibiscus spp. (J. W. Beardsley).

A specimen of a PHORID FLY (Conicera hawaiiensis Colyer) was collected at Honokane Nui Valley, Kohala Mountains, on July 13, 1964, in debris on the floor of native forest by G. E. Haas. This is a new record for the island of Hawaii. (D. E. Hardy).

A live adult of a CERAMBYCID BEETLE (Phoracantha semipunctata (F.)) was intercepted with various cut flowers in mail from Kailua, Oahu, and destined for the mainland, on November 4, 1964, by R. Bergman. This is the second collection of this species in the pier 36 area of Honolulu. This beetle may be established on Oahu, judging from the two widely separated areas of the findings. Determination was made by G. B. Vogt. A specimen was also collected in Wahiawa in November 1964. (E. S. Shiroma).

An adult of a DERMESTID BEETLE (Dermestes carnivorus F.) was collected by G. Sadoyama on the floor of the Customs Inspection area at the Honolulu International Airport on October 11, 1964. Determination was made by J. M. Kingsolver. This beetle is indigenous to America and is known to occur in North and South America, Europe and India. It has been found primarily with hides. (E.S. Shiroma).

MONARCH BUTTERFLY (Danaus plexippus (L.)) - Over 600 adults were collected, reared and examined for a shipment to Minneapolis, Minnesota, on March 7, 1965. Three albino adults, one male and 2 females, were reared from larvae collected in the field on Oahu. No albino specimens were observed in the field. Larvae of monarch butterfly were heavily infested (89.2 percent) by a TACHINA FLY (Achaetoneura archippivora (Wied.)). A single specimen of a CHALCID WASP (Brachymeria obscurata (Walker)) was reared from the larvae. (W. C. Mitchell).

MEADOW SPITTLEBUG (Philaenus spumarius (L.)) was collected from Klamath-weed (Hypericum perforatum) at 7,200 feet on the slopes of Hualalai Volcano, North Kona, Hawaii, by C. J. Davis and H. Yamayoshi. Nymphs and adults were observed in the area. This spittlebug was first collected in the Volcano House area in January 1964 and has since spread over the island to Hualalai. (W. C. Mitchell).

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Colorado
(State or District)DURING 1964
(Year)

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ATTACKING Lettuce
(Commodity or Crop)A. Pest or pest complex: Aphids, webworms, loopers, cutworms, six-spotted leafhopper

B. Number of acres	a produced	(From CRS)	No.	7,500
C. Average yield per acre	a	(From CRS)	Units/	200 ctn.
D. Price ^b per unit (ctn.)	c	(From CRS)	\$/	2.00
E. Acres	a needing control		No.	7,500
F. Acres	a treated		No.	7,500

G. Reduction due to not treating where needed:

H. Loss in yield, percent	%	.5
I. Loss in yield, units per acre	a, C x H	1 ctn.
J. Loss in yield, \$ per acre	a, D x I	2.00
K. Loss in quality, \$ per acre	a	----
L. Yield loss for all acres	a, (E-F) x I	Units
M. Control cost, \$ per acre	a	\$/
N. Control cost for all acres	a, F x M	\$ 45,000
O. Yield loss for all acres	a, (E-F) x J	\$ ----
P. Quality loss for all acres	a, (E-F) x K	\$ ----
Q. Combined control cost and losses	N + O + P	\$ 45,000
R. Percent loss due to each insect in the complex:		

Comment: Losses due to insects were light due to low populations and application of controls.

- a. Acres, head of cattle or other producing units used by Crop Reporting Service.
- b. Season average price per unit as given by CRS (describe basis).
- c. Bushels, boxes, tons or other marketing units used by CRS; show which in ().

Submitted by L. E. JenkinsDate February 8, 1965ATTACKING Cabbage
(Commodity or Crop)A. Pest or pest complex: Lygus bugs, webworms, cabbage looper, imported cabbageworm

B. Number of acres	a produced	(From CRS)	No.	2,000
C. Average yield per acre	a	(From CRS)	Units/	12 tons
D. Price ^b per unit (ton)	c	(From CRS)	\$/	16.00
E. Acres	a needing control		No.	2,000
F. Acres	a treated		No.	2,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent	%	1
I. Loss in yield, units per acre	a, C x H	.12 ton
J. Loss in yield, \$ per acre	a, D x I	1.92
K. Loss in quality, \$ per acre	a	----
L. Yield loss for all acres	a, (E-F) x I	Units
M. Control cost, \$ per acre	a	\$/
N. Control cost for all acres	a, F x M	\$ 6,000
O. Yield loss for all acres	a, (E-F) x J	\$ ----
P. Quality loss for all acres	a, (E-F) x K	\$ ----
Q. Combined control cost and losses	N + O + P	\$ 6,000
R. Percent loss due to each insect in the complex:		

Comment: Insects on cabbage were very light and control measures were effective.

- a. Acres, head of cattle or other producing units used by Crop Reporting Service.
- b. Season average price per unit as given by CRS (describe basis).
- c. Bushels, boxes, tons or other marketing units used by CRS; show which in ().

Submitted by L. E. JenkinsDate February 8, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

ATTACKING Sugar beets IN Nebraska DURING 1964
(Commodity) (State or District) (Year)

A. Pest or pest complex: Webworms, leafhoppers, grasshoppers, wireworms, flea beetles, spider mites

B. Number of <u>acres</u> ^a produced (From CRS)	No.	86,100
C. Average yield per <u>acre</u> ^a (From CRS)	Units/	16.3 ton
D. Price ^b per unit (<u>ton</u>) ^c (From CRS)	\$/	14.00
E. <u>Acres</u> ^a needing control	No.	60,270
F. <u>Acres</u> ^a treated	No.	34,440
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	15.0
I. Loss in yield, units per <u>acre</u> ^a , C x H	Units/	2.45 tons
J. Loss in yield, \$ per <u>acre</u> ^a , D x I	\$/	34.30
K. Loss in quality, \$ per <u>----</u> ^a	\$/	----
L. Yield loss for all <u>acres</u> ^a , (E-F) x I	Units	63,283.5 tons
M. Control cost, \$ per <u>acre</u> ^a	\$/	3.45
N. Control cost for all <u>acres</u> ^a , F x M	\$	118,818.00
O. Yield loss for all <u>acres</u> ^a , (E-F) x J	\$	885,969.00
P. Quality loss for all <u>----</u> ^a , (E-F) x K	\$	----
Q. Combined control cost and losses, N + O + P	\$	1,004,787.00
R. Percent loss due to each insect in the complex: _____		

Comment: Price per ton (D) value is based on an estimate and 1962 - 1963 prices. The 1964 price was not available from crop reporting service.

- a. Acres, head of cattle or other producing units used by Crop Reporting Service.
- b. Season average price per unit as given by CRS (describe basis).
- c. Bushels, boxes, tons or other marketing units used by CRS; show which in ().

Submitted by Paul W. Bergman

Date February 9, 1965

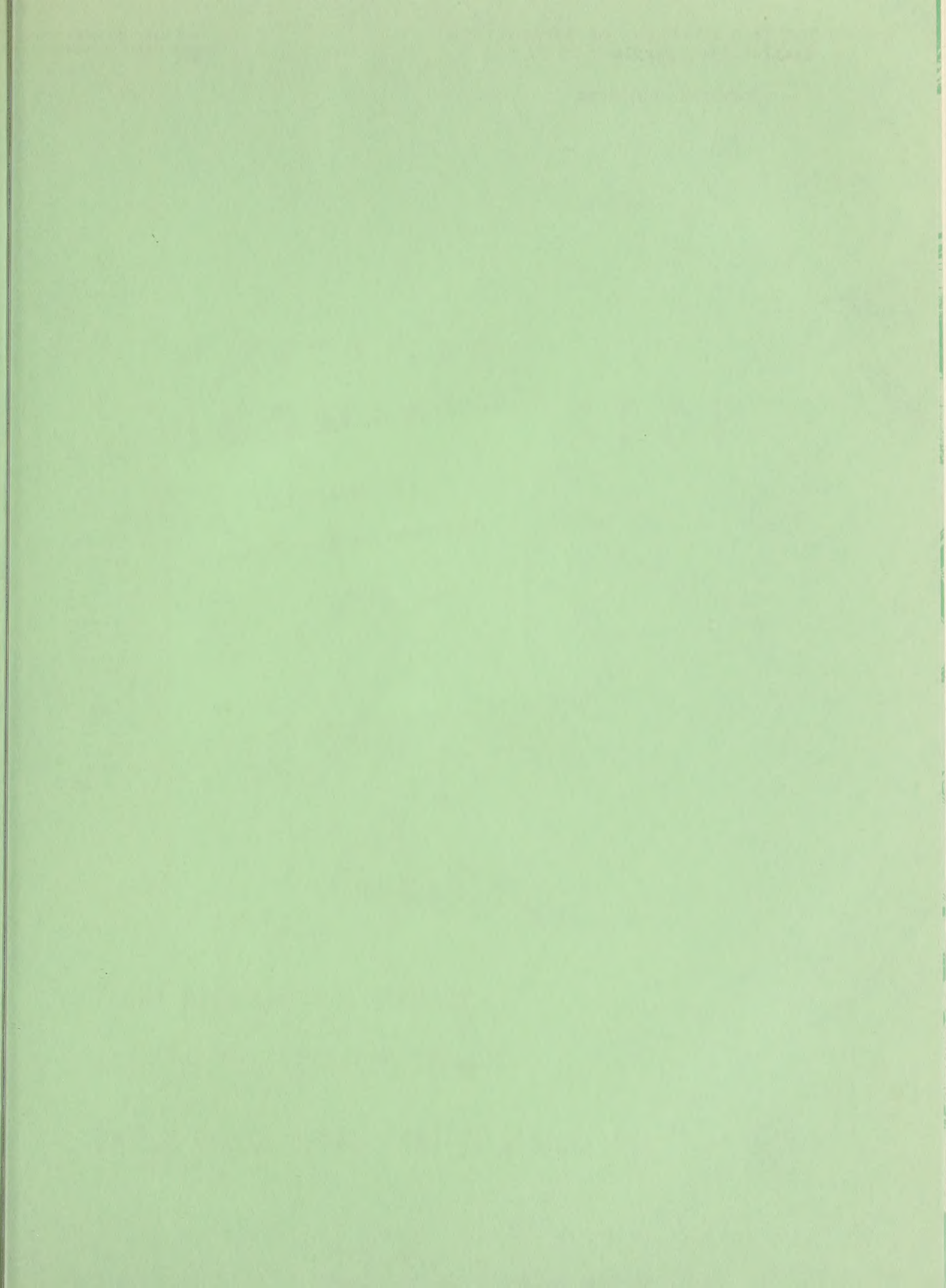
LIGHT TRAP COLLECTIONS

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LIGHT TRAP COLLECTIONS

	Temperature (°F.)	Precipitation (inches)	Type of trap *	<i>Agrotis ipsilon</i> (black cutworm)	<i>Carponia pomonella</i> (codling moth)	<i>Choristagrotis auxiliaris</i> (army cutworm)	<i>Estigmene acrea</i> (salt-marsh caterpillar)	<i>Fatima diffusa</i> (wheat head armyworm)	<i>Pellia subterranea</i> (granulate cutworm)	<i>Heliothis virescens</i> (tobacco budworm)	<i>R. zea</i> (bollworm, corn earworm, tomato fruitworm)	<i>Loxostege clematilis</i> (alfalfa webworm)	<i>Loxostege sinuata</i> (garden webworm)	<i>Loxostege sticticalis</i> (beet webworm)	<i>Ostrinia nubilalis</i> (European corn borer)	<i>Peridroma saucia</i> (variegated cutworm)	<i>Prodenia ornithogalli</i> (yellow-stripped armyworm)	<i>Protoparce quinquemaculata</i> (tomato hornworm)	<i>Protoparce sexta</i> (tomato hornworm)	<i>Pseudodelia unipuncta</i> (armyworm)	<i>Spodoptera eridania</i> (beet armyworm)	<i>Spodoptera frugiperda</i> (fall armyworm)	<i>Triphleba ni</i> (cabbage looper)
ARKANSAS Hope 4/29-5/5 Kelso 4/29-5/5				16 9						0 0	3 1					9 3				14 4			
CALIFORNIA (County) Yolo 5/8-14				2		1										15				95	5	1	
FLORIDA Gainesville 5/13			BL																				
ILLINOIS (County) Champaign 5/5-13	49-79	0.10		8							0			2	8					27			4
MISSISSIPPI Stoneville 5/7-13 Rolling Fork 5/7-13 Tunica 5/7-13	57-89		2 BL BL BL	16 3 3		2		115 7	2 1	11 14					7	42 8	2	22 9 5		21 3			6 3
MISSOURI Portageville 5/8-14				3										16	2					1			
NEBRASKA Scotts Bluff 5/1-7				1		207									5								
TENNESSEE (Counties) Maury 5/4-10 Cumberland 5/4-10 Greene 5/4-10 Blount 5/4-10 Johnson 5/4-10				13 3 9 6				2 2 4 1		1 8 2					4 4 2				35 20 151 39 24				
TEXAS Brownsville 5/6-12 Waco 5/8-14	73-87	Trace	5 BL	6		29		268 20	1	119 13		105			2 13	3 10	2	4		7		11	255
WISCONSIN Racine 5/7-10 Mazomanie 5/5-11 Madison 5/5-11 Middleton 5/5-11 Hancock 5/1-7	44-84		BL BL BL BL BL	0 2 18 2 0											4 2 3 2 0				12 2 170 73 0				

* BL = blacklight; I = incandescent; MV = mercury vapor; 0 = other
 ** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn;
 grain = small grain; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes;
 soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.



UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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